

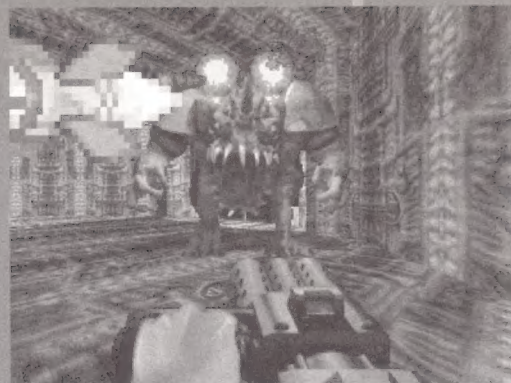
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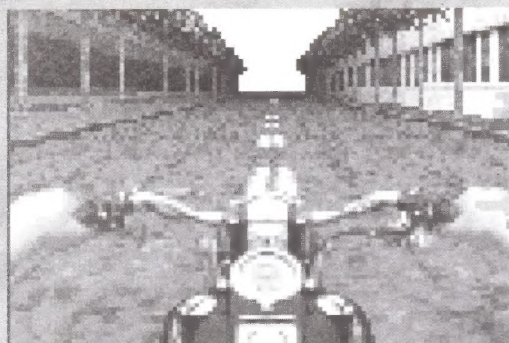
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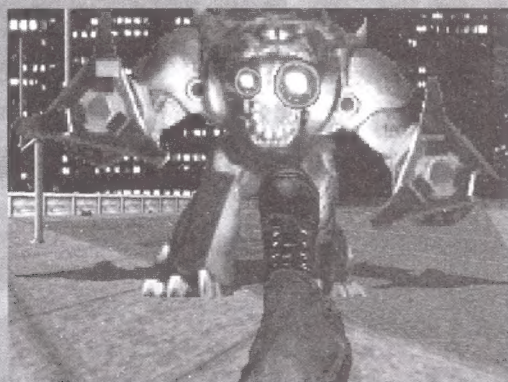
The Gamer's Bare-Knuckle Guide to the Net







Born to be WILD!...







Duke Nukem® Does the Internet

by Duke Nukem



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DEDICATION

To me, 'cuz I'm so great.

ACKNOWLEDGMENTS

The fuse for this book got lit at the Oakland Airport Hilton while I was tossin' back a couple cold ones with the online warriors from Sybex books. One of the guys, last name Brodnitz, started goin' on about a weird dream he'd had where some hard-boiled detective named Jimmy Valentine was gonna write a buncha Sybex books. "Hell," said Gary Masters, "we don't need a private dick doin' our books—we got Duke!" I just drained my Red Hook, laughed, and gave him a friendly punch in the head.

"No, seriously," Masters said, as he got up and moved to the other side of the table, "think of the millions of gamers out there gettin' all their information about the Net from geeks and weasels. Wouldn't it be cooler if they had you teach 'em the ropes instead?" Well, that struck a chord in good ol' Duke. I always said that gamers deserve the best.

But hey, as great as I am, it still took a lotta people to put this book together. Thanks to Scott Miller, President of Apogee Software, and George Broussard, President of 3D Realms, for green-lightin' the idea. These two and the kick-ass programmers and artists at Apogee and 3D Realms taught me all my moves and made me what I am today. Special thanks to Chuck Jones and George for the cover snapshot of me workin' on the book.

At Sybex, thanks to Gary Masters for coming up with the idea and convincing everyone it was worth doin'. Sorry 'bout that bruise. Thanks also to Dan Brodnitz, John Matrix, and Peter "Genghis" Kuhns for all their time an' effort.

None of it coulda gotten done without Kimberley Askew-Qasem, who worked long and late to bring this puppy in on schedule. Same goes for William Salit, Lisa Lusk, Rachel Fudge, and Tory McLearn, who put up with tons of last-minute changes and did an all-around rockin' job. Inbar Berman came through with fire-team diagrams, and let me call her at 11 P.M. to talk fonts.

Oh yeah—and while I'm at it, let the record show that Barbara Dahl rules!

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INTRODUCTION

Snag a chair and grab a cold one. The name's Duke Nukem—maybe ya heard of me. And if you haven't already memorized my autobiography (*Why I'm So Great*) or spent a few months slugging it out with alien maggots in Duke Nukem 3D (a mind-melting computer game based on my life an' times), here's the deal: I'm a world-saver. I'm a skull-buster. And I'm a merc you *don't* wanna piss off. But hey—you caught me on one of my nice days. See, you picked up my book, so I know ya got brains. Question is, do you have what it takes to get online, grab the goods, and deal out some serious DukeMatch pain? Yeah, well simmer down, punk. You ain't as tough as you *think* you are—yet.

See, a lot of jerks would give you a nice, air-conditioned, sightseeing tour of the Net and the Web. Not me. Not here. You're gonna get up early, you're gonna pay attention, you're gonna play hard, and you're gonna get dirty. Yer gonna see it all and do it all. I've only got ya for a few hundred pages, so I'm gonna make every damn one count.

ALRIGHT—WHO WANTS SOME?

Let's get a couple things straight from the top:

- ☛ I wrote this book for my kinda people—gamers—but it ain't *just* for gamers. Most of these skills—how to get online, how to recon on the Web, how to shoot out e-mail, how to find what yer looking for—they work for anyone who wants to make the Net roll over and bark like a dog.
- ☛ And yeah, I got a real soft spot for people who dig Duke Nukem 3D, but that don't mean I'm gonna leave Doom-fiends and Quake-o-philes out in the cold. Their lives are lame enough as it is. Same's true for wannabe pilots and dragon slayers. Have a seat. Grab a brew. Listen up.

See, this is the book that gives you the inside story, the real deal—the good, the bad, *and* the ugly. But you gotta be ready for the truth, 'cuz that's all I'm handing out. I ain't pulling punches or takin' prisoners—I'm kicking ass and takin' names.

RULES OF THE GAME

You got places to go. I got scumbags to waste. Let's cut to the chase:

- If yer new to the Net, jump in at Level 1 and don't climb outta those trenches 'til you see daylight at the end of Level 9.
- If you've already got some online experience—maybe you've plugged in at school or work, maybe you've browsed the Web but you don't have a clue how Usenet works—feel free to skim 'til you score what yer looking for.

Once I get moving, I'll be tossin' out 3 kinds of notes built to grab you by the face and make sure you don't tear past key info:



DUKE SEZ

I'll drop a **Duke Sez** (complete with this handsome mug shot), when I'm gonna make a real important point you don't wanna miss.



DANGER ZONE

Ignore a **Danger Zone** at yer own risk—some will save you grief. Others will save yer ass.



KICK-ASS TIP

If I'm in the mood to set you up with a **Kick-Ass Tip**, I'll wind up the Mighty Boot and let 'er rip—boom.

Head up—eyes front. Here's a look at some of what's waitin':

Level 1: Internet Intelligence

"The Internet According to Duke"—what the Net is, where it came from, and why it rocks for gamers. Also, a midnight joyride to some of the coolest Web sites around.

Level 2: Duke's Guide to the Heavy Hardware

The gear you *want*, the gear you *need*, and where you can snag it—from RAM to CD-ROM drives to 3D accelerator cards. Don't send a golf cart to do a tank's job.

Level 3: Getting Online: The Quick and The Dead

Getting hooked-up for speed, finding a solid Internet on-ramp, installing yer software, and then reaching out and pulling down Netscape Navigator—a badass browser and one of the best pieces of software on this or any planet. Sounds like a lotta work? Piece of cake.

Level 4: Browser Boot Camp

Everything you gotta know about making Netscape Navigator and Microsoft Internet Explorer crank. By the time you get through Level 4, your browser's gonna feel like a natural extension of yer hands—only less battle-scarred.

Level 5: The Flamethrower's Mightier than the Pen

Online self-defense, Part 1: passwords, credit cards, and flamewars. The lowdown on the Net's main comm devices (e-mail, mailing lists, Usenet)—what you gotta know before you can set up multiplayer battles and trade game cheats, hints, game biz info, and war stories with other online warriors.

Level 6: Internet Recon with Duke

Strategies, tools, and tactics for tracking down what you want *fast*. Drill hard and you'll be hitting the Web and Usenet with all the speed and accuracy of a cruise missile takin' out a Baghdad bunker.

Level 7: A Walk on the Seamy Side

Online self-defense, Part II: a tour through some of the Net's underground. Watch out for sewer rats—porn sites on the Net, viruses, Internet impostors, Usenet psychos, hackers, crackers, and phone phreaks—and find out what you gotta do to make sure yer ankles don't get gnawed.



DUKE SEZ

For most of the stuff in this book, it don't matter if you're using Windows 3.1 or Windows 95. But make no mistake—when I had to choose between 'em (like in part of Level 3), I went with Windows 95 and blew off yesterday's news. You got a problem with that?

Level 8: Online Gaming: Let's Rock!

Time to get paid. This is what you're looking for—the hottest game sites, multiplayer software, and online gaming services: Games Domain, Happy Puppy, *Computer Gaming World* and *PC Gamer* online, TEN, Mplayer, and Kali—everything you gotta know.

Level 9: The Art of Online War

How to kick some world-wide ass in multiplayer combat, as taught by the master. Keyboard/mouse skills, strafing drills, sniping, setting ambushes, defeating ambushes, running fire teams, and the 11 Rules of Tactical Duklear Warfare.

Once you make it all the way through, feel free to shoot me an e-mail at Dnukem@Sybex.com and let me know how ya did.

Alright—'nuff preview—it's showtime. Boot up, jack in, KICK ASS!

Duke
Los Angeles
Tuesday





LEVEL

1



Internet Intelligence

K, punk, I'm not here to waste time, so get this straight—Level 1's more *piece of cake* than *come get some*. It's aimed at what cybergeeks call *newbies*—first-timers who think *bandwidth* depends on the size of the guitarist. Here's the deal: Over the next few pages, I'm gonna haul out the blackboard, blow it up, and use the pieces to spell out what the Net is, why it kicks ass, and where it came from. If you're new to cyberspace, or if you just wanna hear all about the Internet According to Duke, pull up a cement slab and get comfortable. If you've been using the Net for a while, feel free to give this easy stuff a quick skim and then strap on yer jetpack and tear over to Level 2.

Tough guys gone yet? Good—now it's just you and me, scrub. Take a look around. Whaddaya see? Four walls? An uncomfortable chair and a beat-up computer desk? (Hey, is that an *Independence Day* poster on the wall? *Groovy*. Duke digs *Independence Day*.) Up until now this has been your field of battle. Sure, you've earned yer share of scars, so revel in it, scream at the moon, grunt real loud, and reboot your PC twice (after you've saved any important files).



Hope that felt good, 'cuz you're about to leave the you-against-the-machine world behind. You think battling Artificial Intelligence is tough? Just try taking it out on the real thing. Think you're ready? Well grab hold of your monitor, runt—Duke's gonna plug you in and smile big as those walls get blown wide open. See, that's what the Internet's all about—the biggest brawls, the best bytes, and more than enough game-related goods to keep your trigger finger twitchin'. Yeah, the Internet rocks. Just one question:

WHAT THE HELL IS IT?

Lessee . . . it's HUGE. It's international. Today's best guess sez 35 million people are already hooked up, and that number's growin' faster than the body count at my birthday bash. From the sound of all those goons mouthing off about the Net, you might think it's the latest thing. Truth is, it's been around for a quarter century, but it's changed so much in the last 3 or 4 years, it's become a whole new game. Even some hackers who've been hooked up since the '70s have a hard time keeping track of the latest buzz.

Another big mistake most clowns make: They think the Internet means the World Wide Web. Wrong and wrong. The Web is just one piece of this bad boy. The Net's also e-mail, Usenet, gopher, telnet, and a duffel bag full of equally geeky-sounding online options. It's like this:

If the Internet was the Bulls, the Web would be Air Jordan. If the Internet was rock festivals, the Web would be Lollapalooza. And if the Internet was a computer game stud, hey you just know the Web would be Duke Nukem.

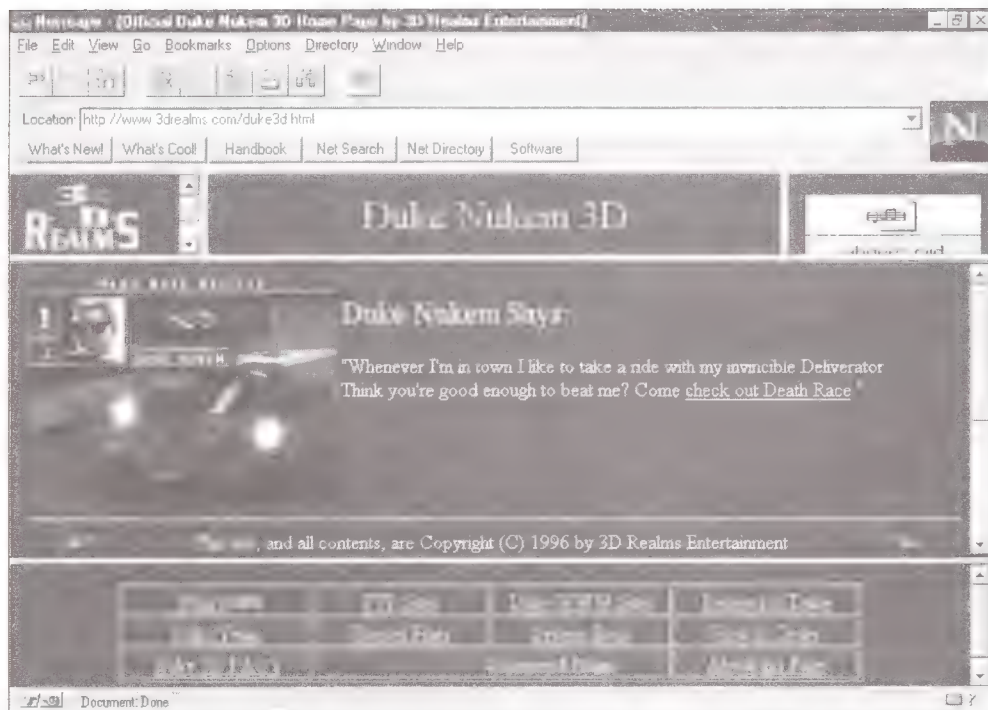
Bottom line: The Web is the part of the Internet that wears sunglasses and packs a ripper chaingun. It ain't the whole Internet, but it is the coolest part. It's also the easiest part of the Net to use and it's where you'll snag most of the goods.

Alright, ready for a couple a' new words? These shouldn't be too tough—you've probably heard 'em both before. Here goes: Places on the Web are called *Web sites*. Bite-sized chunks of these sites are called *Web pages*. Hey, you OK? Yer looking a little green there, buddy. Look, I'm only gonna tell you *once*—you *don't* wanna puke on these boots. Maybe a picture will help settle ya down. Check out Shot 1.1 for a quick look at a real-life Web page and one of my favorite sites.



DUKE SEZ

Yeah, spend some time lookin' at other parts of the Net, and I'll even set you up with a whole level (number 5) on e-mail and Usenet, but as a rule, I'm gonna keep the Web locked in the crosshairs.



SHOT 1.1: My official Web page from 3D Realms.

THE INTERNET ACCORDING TO DUKE

Like most cool stuff, the Net has its own language. "Pages" and "sites" are easy enough, but most of this lingo gets put together by overworked programmers—the kind that like



DUKE SEZ

People used to get real uptight about the Net being a separate critter from online services like AOL, Prodigy, and CompuServe. Still true, kinda, but those borders are getting blasted away every day. Make no mistake, if it's online in '97, it's either hooked to the Net, soon to be hooked to the Net, or soon to be gone. This ain't no fad—the Net is the real deal.

to be called *code jockeys*. These guys spend waaaaay too much time under fluorescent lights, tossing out technical acronyms (HTML, FTP, and FAQs) and lame jargon based on white-collar coffee puns (Java, Latte). Lately, with all the money getting thrown at the Net,

marketing types have also started waddlin' up to the microphone to call out snappy but meaningless new product names like ActiveX and Shockwave. See, most cybertypes dig jargon. Duke don't. So what the hell is the Net? Let's slice this sucker up three ways:

Hype

It's the Information Superhighway. *Great. Billboards, traffic, old ladies and truckers in the fast lane . . .*

Technoid

It's a global network of computer networks. *So why should you care?*

Duke

It's not paradise, it's not the dark side, it's another world altogether. It's got good shit, bad shit, good people, scumbags. Your computer takes you there, lets you hook up to a cyberspace filled with sound, pictures, files, movies, even other online warriors. But you're gonna have to play it smart if you want to make it back—not just in one piece, but with a gunnysack full of spoils to show for yer time. And that's why you got this book. Smart kid, real smart. Duke's here to show you how *this* game is played.

OK, so the Net rules, but what's it got for gamers? Say, Charlie, ever hear the story 'bout the kid who suddenly got everything he ever dreamed of? Well read on, punk—it's time to get specific.

HAIL TO THE NET, BABY

Anyone who's made it through 10 minutes of DukeMatch (or 20 minutes of DeathMatch) knows there's power in numbers. In yer run-of-the-mill underwater 5-on-1, the 1 eats it every time (unless his last name is Nukem, 'natch). With around 35 million bodies online, the Internet's got numbers—BIG numbers. And it's no surprise that a lot of these people dig computer games—remember, these folks are *real* smart.

It all adds up to millions of bleary-eyed online gamers who might as well have their nervous systems hooked straight into their CPUs. Why do they do it? Well if you hosed 'em down and asked 'em real nice, they might tell you they were looking for game-related

software, game-related info, and fellow travelers to trade war stories with or battle to the death. But if you snuck up behind 'em real quiet and just whispered "why?" most of 'em would whip their heads around and scream, "'Cuz I'm looking for . . .

KICK-ASS WEB SITES!

Make no mistake—the game industry knows the score. True multimedia? Hit games first. The Internet? Same story. And none of this happened by accident. They got it done first 'cuz they had to—gamers demanded it.

As the Web rips toward the next millennium, everything from Harleys to Hong Kong movies is getting its own site, but the game biz still sets the standard. Instead of



DUKE SEZ

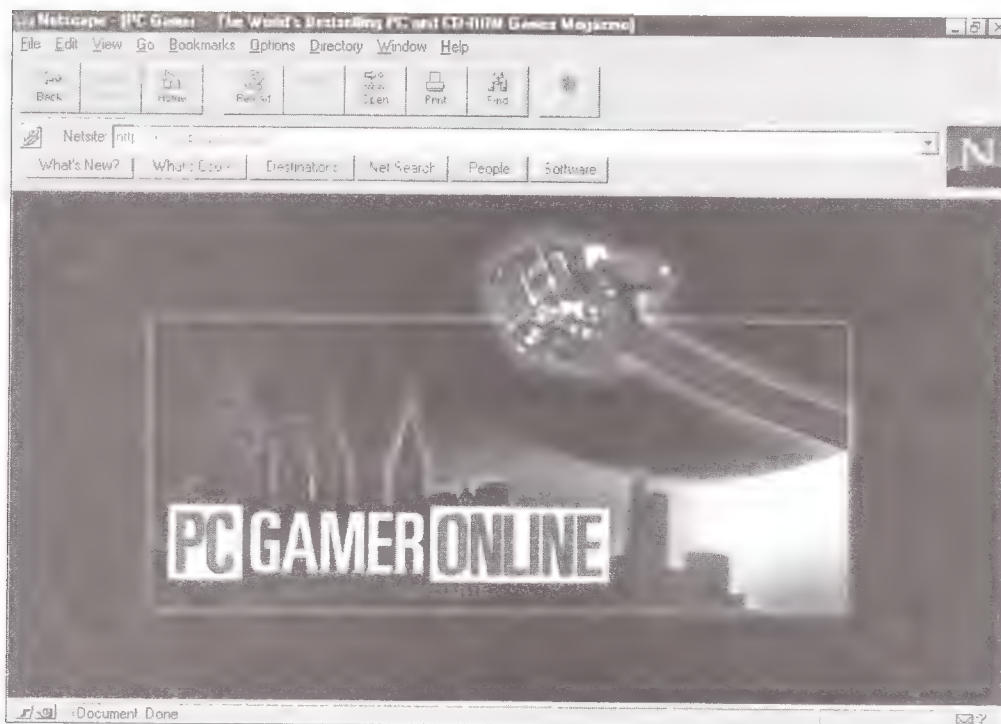
Hey, Duke appreciates all yer help in pushin' along this technology. Compared to my new life in 3D, those good ole days of 2D sideways-scrolling kinda sucked.

throwin' up another pile of Web sites with snapshot advertisements for lame-ass products promising complete nose-hair control, game makers like Apogee, LucasArts, and id, game sites like GameSpot, Happy Puppy, and CNET's game-

center, and cool game mags like *Computer Gaming World*, *Computer Games Strategy Plus*, and *PC Gamer* (see Shot 1.2) are making sure the Web keeps kicking ass by handing out free content over the wire.

Game previews, the straight dope on new CDs, and tomorrow's inside industry info? Get to it, Private, they posted that yesterday. Shareware games and playable demos you can snag with the click of a button? That's what it's all about. There's even game magazines that you can only find on the Web, and new companies are busting down the door all the time, just dying to make your day with a bag full of the latest cybertoy. No one knows exactly where this is all headed, but one thing's clear—it's moving fast. Ya got two choices: Jump on board or get run over.

One of the best thing about Web sites is that you don't have to be a walking suit with a briefcase full of the green stuff to put one up. This isn't squat-and-watch TV—*don't make a sound or ya might scare the little people who live inside the magic box*—this is the Web, and with the right gear in hand and a decent set of brain cells, you get to throw crap on the wall to see what sticks. Take my word for it, throwing crap is loads of fun. Gamers around the world have been doing it for a couple of years now—carving out their own territory, securing the perimeter, and putting up a flag in the name of



SHOT 1.2: The good folks at mags like *PC Gamer* are making it harder and harder to read in the can.

their fave games, or fave kinds of games, or just a few of their favorite things—chicks, bands, Simpsons' episodes . . . whatever.

Sure, some of this home brew don't smell too good. You don't want to be around when I wait 5 minutes for the damn thing to load, and the payoff is a big brown box with the words "Doom Rules" in tiny blue print. But even I lighten up and forget about all those dead ends when I turn the corner and find a site loaded with power-ups: cheat codes, game secrets, level editors, extra levels, sound files, pictures, animations, and tons of other game-related goods.

(VERY) REMOTE RIDICULE

Don't know about you, but when I hit the motherlode, I like to pull out the megaphone and let everyone know who just grabbed the gold. The Net makes this almost too easy with a ton of specialized communications devices. Most of the coolest company-owned

Web sites have chat rooms and bulletin boards where you can shoot the breeze with other gamers, or just sniff around to see if anyone knows the best way to take it hard to the Battlelord near the end of *L.A. Meltdown*. And because the Web is worldwide, a lot of these convos keep going all night long.

'Course, your options just start with the Web. There's also Internet Relay Chat, a.k.a. IRC, the Internet's creaky old, real-time conversation pit. And then there's Usenet, the Net's original bulletin board, where many of the hardest-core gamers show up to grab on to a few of the thousands of Usenet *threads* (chains of messages that make up a single conversation). If you're willin' to put up with their technical hassles, Usenet (see Shot 1.3) and IRC (too damn ugly to waste a screenshot on) can be solid sources for inside info on specific games and the game biz in general.

Online services like AOL and CompuServe have also set up chat areas and bulletin boards just for their gamers. Game makers and game mags have set up their own areas on these services with more chat rooms, more bulletin boards, more files, more inside info . . . startin' to get the picture? Bad news is that these online services tend to censor their areas to keep the conversation squeaky clean (somethin' I've never been too good at). This cuts down on the number of true screw-ups you have to deal with, but it also attracts a younger crew and discourages some straight-shooters from showin' up at all.

Lots of weapons to choose from, but in the end, it all comes down to person-to-person digital bursts called *electronic mail* or just *e-mail*. E-mail is the Internet's equivalent of your grade-A shotgun. It's always by your side, takin' care of business, helpin' you get yer message across. Yeah, chat and bulletin boards have their place, but e-mail brings it all home.



```
Randy Lai: >[HELP] I wanna change Duke's bitmap for DukeMatches!Aug 1996 20:57
Randy Lai <Randy.Lai@worldnet.att.net> wrote:
Hi Dukes,
I want to change the drab Duke bitmap character to something else
for the DukeMatches, preferably to that of a cool Enforcer. Can this
be done? And can this be done while allowing the other player(s) to
still be Dukes?
Also I want to make the Enforcer character jump twice as high as regular
Duke. Can that be done while still allowing other players to be normal?
What software would I need? Or is everything I need in the registered
version? Bear with me because I never tried to tinker before.
BTW I don't have Win 95.
Please Email me with your response, thanx.
~ HL
```

SHOT 1.3: Usenet may not be pretty, but it's loaded with game info. This dog and the mutt they call IRC are Dobermans when it comes to getting the facts fast.

Even though reaching out and humiliating someone can be pretty fun, keep two things in mind:

- ☛ You think the Cycloid Emperor is tough to handle, just wait 'til you've spent some time on the wire, rapping with other humans. Online convos have their own set of rules, and their own set of risks. Some of the people out there are real dirtbags, dangerous creeps who can mess you up bad. Make sure you read Level 5, the Flamethrower is Mightier than the Pen, and Level 7, A Walk on the Seamy Side, before you spend any time talking online. I'll show you how it all works and what to do to protect yourself from genuine jerks and accidental assholes.
- ☛ Don't make the mistake lotsa kids make and spend all yer time yapping on the line when you could be fine-tuning your pipe-bomb technique. Sure, teatime's fine for some, but online warriors live for combat.

BLOOD ON THE WIRE: VIRTUAL ASS-KICKING

Six people from five time zones meet in a broken-down building that don't exist. Call it virtual reality 'til you find out the building's an L.A. strip-joint, the mood's a little . . . anti-social, and everybody's packing heat. Then you call it DukeMatch—head-to-head combat, not against neatly typed lines of computer code, but against a pack of living human brains—they think like you, they move like you, they work in teams, they learn from yer mistakes. Sound good? It's better.

Welcome to the year online gaming busted things wide open. Text-based trips to cyberdungeons and three-week games of nail-biting e-mail chess—that kind of good time's been around longer than I've known how to lock 'n' load. But things are a little cooler nowadays, and I'm not talking about 3D tic-tac-toe. Every game company worth their logo is tripping over themselves to make their stuff multiplayer. Apogee's ready (see Shot 1.4), so's id, Blizzard, Looking Glass, Virgin. . . . Just one question: You ready for what they've got?

It all starts with games played over modems. Set your computer to dial up a PC belonging to your victim, let your software shake hands, and the battle begins. If you want more than one-on-one bloodshed, a bunch of you can try to get set up on a local area network, or LAN. Tons of fun, but what if you don't have a network installed in



SHOT 1.4: Duke vs. Duke—either way I win

your living room? Or if you want to play one-to-one with a friend in New Guinea, but yer just not ready to cover the phone bill? That's where software like Kali steps in to make your Internet connection act like a network connection. Suddenly you don't need a network to play a network game, you just need to be on the Net.

And if you get tired of crushing the same old saps? Well there's no trouble finding players online. Usenet's got 'em. IRC Chat does too, plus AOL, CompuServe, and a whole lot of Web sites with bulletin boards for gamers looking for a new sucker to crush



DUKE SEZ

I'll hand out a lot more online gaming info once you make it to Level 8.

into the pavement. There's also pay-to-play services like TEN (Total Entertainment Network), Mpath, and DWANGO (I'm not making that name up). These guys are happy to

take yer money in exchange for dealing with the technical end of things and helping you reach out and club other gamers. And they're not just selling 3D first-person combat—they've got it all, from flight sims and RPGs to strategies and sports.

What else is out there? How 'bout games with built-in Internet support so you don't need any special software to get connected? Or new technologies like Shock-wave that let companies graft games right into their Web pages. This ain't no golden age, it's the new dawn. Better reach for your shades.

DUKE'S MIDNIGHT RIDE

OK, gotta confess, I'm getting kinda itchy, talking 'bout all this action. Makes me want to stretch my legs, gas up my ride, hit the road. Only one problem: My ride's in the shop. Some pig cop tore out the engine right before I tore out his heart. Alright, so I won't be hittin' the road tonight. Figure I'll crank up my Web browser instead, take a tour of the territory. Wanna tag along? That way, I get to call it work and my editors won't get too cranky. Wouldn't wanna have to frag the bastards.

Get on board and, hey, don't worry if you don't already know just what a *Web browser* or a *URL* is. This tour's taking the fast track—I'm leaving my brakes in the garage. If you run into something you don't quite get, just shake it off like so much cheap flak. Duke's gonna carpet bomb the details soon enough. I'll even spend a chunk of Level 8 nailing down some of the best stuff out there. For right now, you just need to grab a taste of the open road (and that's not the same thing as eatin' gravel).

'Nuff stalling, let's start it up.

First stop is LucasArts (<http://www.lucasarts.com>), the game company owned by George Lucas, better known for bringing us Luke, Leia, Han Solo, and everyone's favorite asthmatic badass, Darth Vader. LucasArts has delivered a ton of great games, and they're kickin' more ass every year. 'Course, George is also the source of that tribe of walking rug samples, the Ewoks (man, I'd love to run into them in a dark alley). For my tastes, when the man goes for cute in a big way, his games just don't pack enough *force*. No such problem with LucasArts'



DUKE SEZ

Web addresses (also called *URLs*) are kinda like TV channels—you type 'em in to get where you want to go. They look roughly like this: <http://www.sybex.com>. And even though you may not know what to do with 'em just yet, I'm gonna call 'em out as we drive around. Once you've got a better idea how to ride the Web (I'll cover this in Level 4), you can tear back here and retrace my steps.



first-person 3D shoot-em-up, Dark Forces—where you get to strap on a blaster, dive into the sewer, and fight the good fight against Darth and the Empire.

The LucasArts Web site is handing out playable demos of the original Dark Forces, good for more than a few hours of fun, so I'm here to pick one up. I also want to find out the latest word on the next version of Dark Forces—y'know, gotta check up on the competition.

Next up is Bullfrog, a hot game company out of England. Bullfrog's got two official sites: their UK site, shown in Shot 1.5 (<http://www.bullfrog.co.uk>) and the site at their distributor in the U.S., Electronic Arts (<http://www.ea.com/bullfrog.html>).

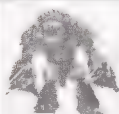
Both of these sites have what I'm looking for: playable demos of Magic Carpet 2 (great sequel to a kick-ass game) and Hi-Octane (not yer run-of-the-mill futuristic driving game). But the UK site doesn't stop there—it's also got cheats, hints, and release info for future Bullfrog games. This is how I like it—two continents battling it out for the chance to hand me the goods.

OK, time for something a little different. Let's gun it on over to Virgin Interactive Entertainment (<http://www.vie.com>). I've been meaning to snag a demo of their Hyper 3-D Pinball—it'll help me keep my reflexes sharp when there ain't no protozoid slimers around to bounce off the walls. I'm also here to read their In the



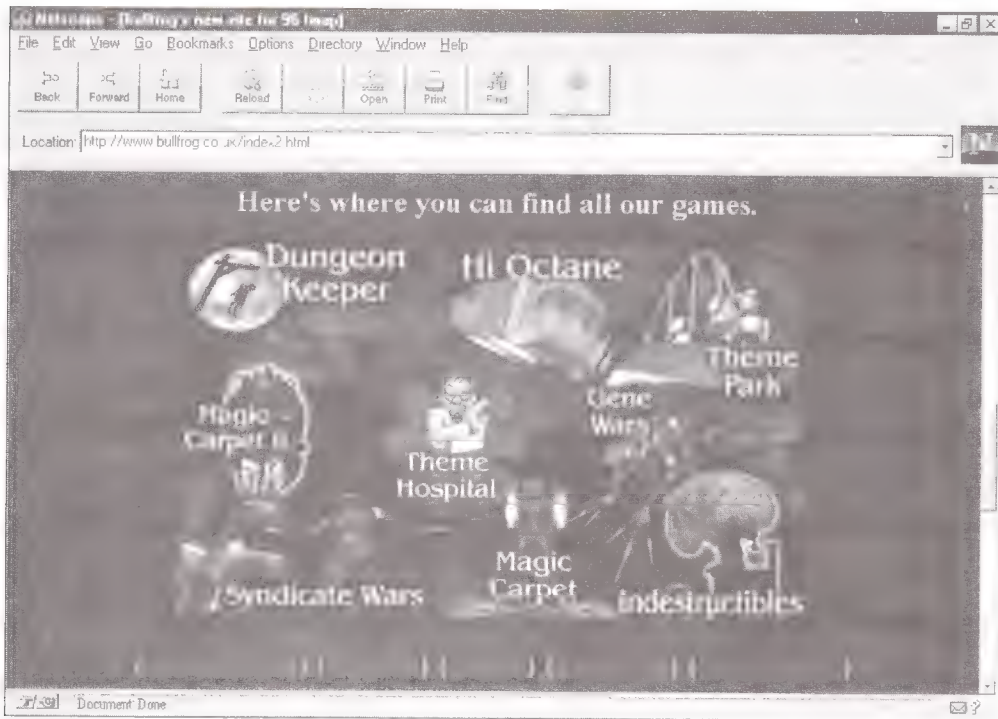
DANGER ZONE

Web sites are moving targets. New ones show up all the time, old ones move or just die out. I'll show you the best ways to hunt stuff down when you get to Level 6. For now, just know that the addresses in this book and the stuff I'm finding at these addresses are where things are at *today*. *Right now*. And this don't mean they're gonna be there tomorrow. No need for a meltdown if you look where I point and some of this stuff is gone daddy gone. The Web's always changing, but most of the time, when old stuff dies out, new, much more rippin' stuff shows up to take its place.



DANGER ZONE

One more time, be clear: The Net is a dangerous place. You're pretty safe now 'cuz you got the Duke riding up front, showing you the way, but if you wanna ride offroad, play it smart and wait 'til you've made it through Level 7. Got it? Good.



SHOT 1.5: The English may boil their meat, but they've also got the best Bullfrog site on two continents.

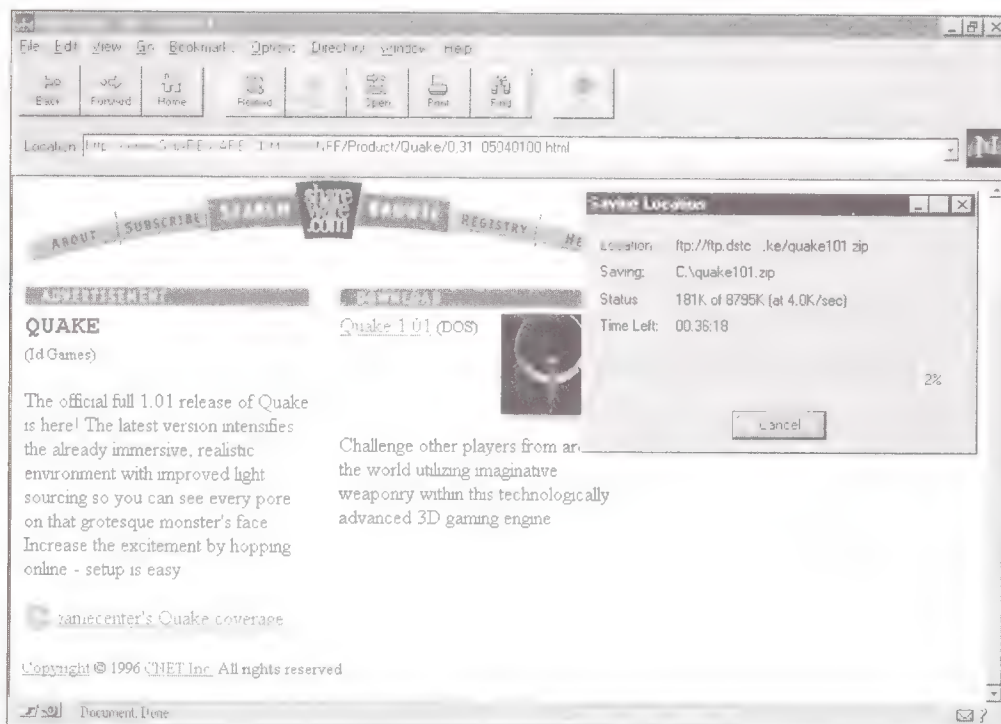
Shareware Games vs. Playable Demos

Right about now you might be wonderin', "Duke, what's the difference between playable demos and shareware games?" and "Duke, what's the catch? Why are these companies just giving this stuff away?" Simmer down, squirt, here's the deal: Not all companies hand out free fun. Those that do use one of two strategies. Some companies give out part of their game, say a few levels of groovy mayhem, hopin' you'll get hooked on the sample and race to pony up the big bucks they charge for the whole enchilada. These samples are *playable demos*. Other companies offer the complete game on the wire and ask you to take the righteous path and send 'em some cash if you hold on to their game for more than a few days. These are called *shareware games*. Don't sweat it if you see these two phrases mixed up or misused. However you break it down, playable demos and shareware games let you try before you buy. Your job is to go out there and try all the best games around. The game biz is counting on you, so don't let me find out you've let 'em down.

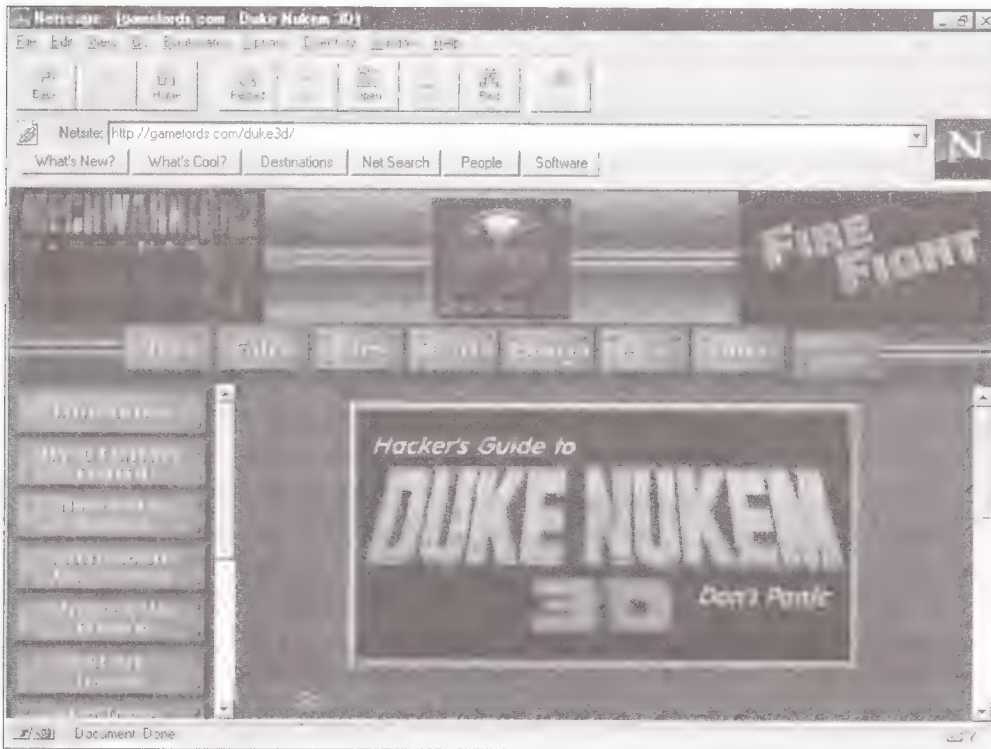
Werks page (shaddap—that's how they spell it) where they serve up previews and scouting reports on new games Virgin's gettin' ready to release.

A few more keystrokes and we're at the Web site for *Computer Gaming World* magazine (<http://www.zdnet/gaming>). I wanna checkin on their running Quake rules, Quake sucks debate. Sounds like Quake's got Trent Reznor but no dancing chicks. Guess it takes all kinds. Might as well give the new kid a tryout, but there's no way I'm dropping any green for this one. Don't have to when CNET's got the demo in their all-purpose software site, Shareware.com (<http://www.shareware.com>), shown in Shot 1.6. Once I've grabbed the game, I'm ready to get back on the road.

Breathe deep, kid, 'cuz we're going down. It's time for a look at the underground. The Hacker's Guide to Duke Nukem 3D (<http://gamelords.com/duke3d>), shown in Shot 1.7, is the unofficial, unendorsed source of info on how to build new Duke maps, mess with Duke sounds, weapons, and explosions, and generally screw around with My World. It's also the source of the Duke Nukem 3D Control Center—an inexpensive shareware program that handles some of the dirty work for you. This guy's



SHOT 1.6: I ain't afraid of no Quake.



SHOT 1.7: Sites like this one toss some welcome chaos into the mix.

spent a whole lot of time putting it all together. Sure, you take his advice at yer own risk, but sometimes, risk is what it's all about.

All this concentrated Dukeness reminds me of my old pals at Apogee, so let's take a hard turn toward the 3D Realms Web site (<http://www.3drealms.com>) to check out screenshots and status on Blood, Prey, and Shadow Warrior, three new titles they're cranking out of Garland, Texas that are gonna rock hard. Apogee knows that gamers crave the latest game news, and their site never lets you down. They've also been serving up shareware since before I was born, so their site always stays well stocked.

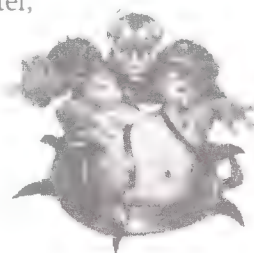
Yeah, you know the Duke—I could keep this going all night long, grabbing free demos, getting the latest info, checking in on all the little people. But that's not the way this play is going down. See, I just got an e-mail from a pal of mine in New York. He's looking for a little pain, and I got pain to spare. So now the two of us are gonna DukeMatch until the small hours get big again. But don't worry, I haven't forgotten about you. In fact, I wrote a little story you can run through while I'm helping this

chump get better acquainted with his intestines. It's about the Net, where it came from, where it's headed, and why it owes a big debt to a guy named Ike, some communists, and the nuclear threat.

BACK IN THE DAY

Once there was this scumbag scientist named Dr. Proton, who pointed an army of tech-bots at my beloved Los Angeles. Then along came a mighty warrior, a blond-haired demigod packin' more firepower than Krakatoa: me. Wait—kill that, wrong story. From the top:

Internet history's a little like a barroom brawl: You can start it up whenever you want. Sure, I could tell ya all about Emile Baudot, Charles Babbage, or any number of other dead guys. Or I could yank you back in time, pull you underwater, and make you scream as the Atlantic cable gets slowly dropped down into the dark. If we were feelin' bored, we could waste an hour ranting about early computers like the ENIAC or the UNIVAC-1, or we could sing campfire songs that celebrate the birth of human communication and the first time someone told their buddy "Hey, behind you, look out, he's got a club." But what say we just cut out the crap and get right to the good stuff instead?



RED SKIES AT DAWN

That means a trip back to 1957. Eisenhower was President, Elvis was young, and the Soviet Union had just tossed *Sputnik*, the world's first satellite, way up into the stratosphere. Sputnik didn't only make history, it made a lot of Americans real nervous. The space race was on, see, and the Reds had themselves a nice little head start. Commies overhead? The Prez wasn't pleased, so he pulled together a group at the Department of Defense (DOD), called 'em the Advanced Research Projects Agency (ARPA), and told 'em to get to it. Now ARPA was filled with some serious brainiacs who had a thing for pure science. Sure, they got our space program back on track inside of 18 months, but that was just the opening fireworks—they didn't start up the real show 'til the third act.

Cut to the early '60s. Kennedy was President, the Beatles were big news, and the Cuban Missile Crisis was keeping the Cold War well below freezing. 'Round the same time, computers were really starting to shake things up. 'Course, these were all huge bastards—this was a decade and a half before the first real home computers, and portable just wasn't part of the picture. Some businesses used enormo-machines to crunch numbers, but most computers were still in the hands of a bunch of researchers and academics—many of 'em working for or with the military.

The good folks at ARPA were still on the scene, and they had a new problem to solve: They needed a way to hook the government's computers into a network that tore clear 'cross the country. And they wanted to make sure this network would keep on going, even after half the country went radioactive. Ya ever watch a worm keep moving and fix itself up again after you cut it in half? This network had to be a little like that—so it could work around whichever parts of itself got nuked. Yeah, it was time for a new idea or two, so they started to think.



FAT ELVIS AND THE BEE GEES

OK, so it took a while. In 1969 the Beatles were getting ready to break up, Nixon was President, and the Fat Elvis years were right around the corner. But it wasn't all bad—ARPA switched on a new computer network they called the ARPANET. Can't figure out where they got the name from? Remind me not to bother aiming at yer head. The ARPANET was born at the University of Los Angeles (gotta love that town), and then spread to Stanford, the University of Utah, and the University of Santa Barbara. No one knew it then, but given a little time, the ARPANET would turn into the everlovin' Internet. And at the heart of this baby was ARPA's answer to the Third World War: a neat trick they called *packet-switching*.

So a few years go by and the beast starts to grow. Four nodes in '69 became thirty-seven in '72. Yeah, 1972—Nixon re-elected, Beatles long gone, Elvis seriously bloated. That was also the year ARPANET got its first public demo, and the crowds went wild. Well, the military brass and assorted techno-dorks went wild. The crowds couldn't care less—they were bracing for Watergate, bell bottoms, and four very dangerous brothers named Gibb. And that's the way it went for the next 10 years or so. Most folks were too busy getting through and then getting over the '70s to notice a bunch of tech-noids taking their first steps into cyberspace. Norway and England got hooked up and the Net went international. Sounds good. E-mail was invented. OK. Usenet was invented. Sure. The first online game, a Multi-User Dungeon (MUD), showed up in 1979. And none of this made up for disco.

Packet-Switching: Release the Hounds

My old man always said, "No need to know why a hand grenade works, just gotta know where the pin is and when to pull it." So don't start sobbin'—I ain't about to shove two fistfuls of computer science down yer throat. But it's worth taking a quick look at how packet-switching works. That way, if we get bombed back to the Ice Age, you can be the smart guy who reinvents the Net using a condom, a calculator, and two pieces of cheese.

In packet-switching, e-mail, pictures, sounds, any computer info at all, gets busted down into small, independent pieces called *packets*. Each packet carries info on where it's headed, and how to put it back together once it gets where it's going—kinda like the name tag your folks glued to your face before they shoved you onto that school bus and sent you off to summer camp.

Those packets act like a pack of hungry dogs, sniffing around for the one bowl of kibble on the block. They may not all take the same route, but give 'em some time and they'll end up in the same place. And if one yard is fenced in, or they spot some neighbor packin' a water cannon, those hounds'll work their way around 'til they find the food. Ain't it swell to know that if all the computers in Nevada got slagged, e-mail from my buddy in the Bronx would still reach me in the City of Angels without missing a beat? Never did like Nevada anyways ('cept Area 51, of course).

More universities, military and government sites, and even businesses got hooked up. From 1970 through the early '80s, a handful of other networks like the ALOHAnet (now *there's* a groovy name), BITNET, and CSNET started up and then latched onto the ARPANET. Also, an old guy named Ronald Reagan took a trip to the White House and stayed for a while. Then in 1982, someone real smart decided that the ARPANET

and everything connected to it should follow a pair of rules for how packets were made (Transmission Control Protocol) and how packets got shot around the world (Internet Protocol). They hammered these two together and came

up with a set of marching orders called TCP/IP. And that's when the Internet woke up, blinked its beady eyes, and called out "Who wants some?" Just like that, latching onto the Net got cheaper, easier, and a little less geek-intensive. TCP/IP may sound complicated, but it made things a lot simpler, and simple sells. Even today, TCP/IP is how most people get hooked up. Hey, even AOL's started doing it.



FAST-FORWARD TO THE PRESENT

In 1983, the military was feelin' crowded out of their own turf, so they broke off into a separate network that they called MILNET, and they let ARPANET go full-on civilian. Then around '86, the National Science Foundation put together a set of supercomputers and ultrafast wires that crossed the country. They called this the NSFNET—sorta rolls off the tongue, don't it? Most people on the Net were happier calling it the *backbone*. People dug the backbone. It made things move fast. The Net got another major speedburst in '89 when the backbone was upgraded. Things started to really move. 1990, ARPANET was phased out, and just like when it was set up back in '69, not many people noticed or cared. That's what they get for pickin' a stupid name.

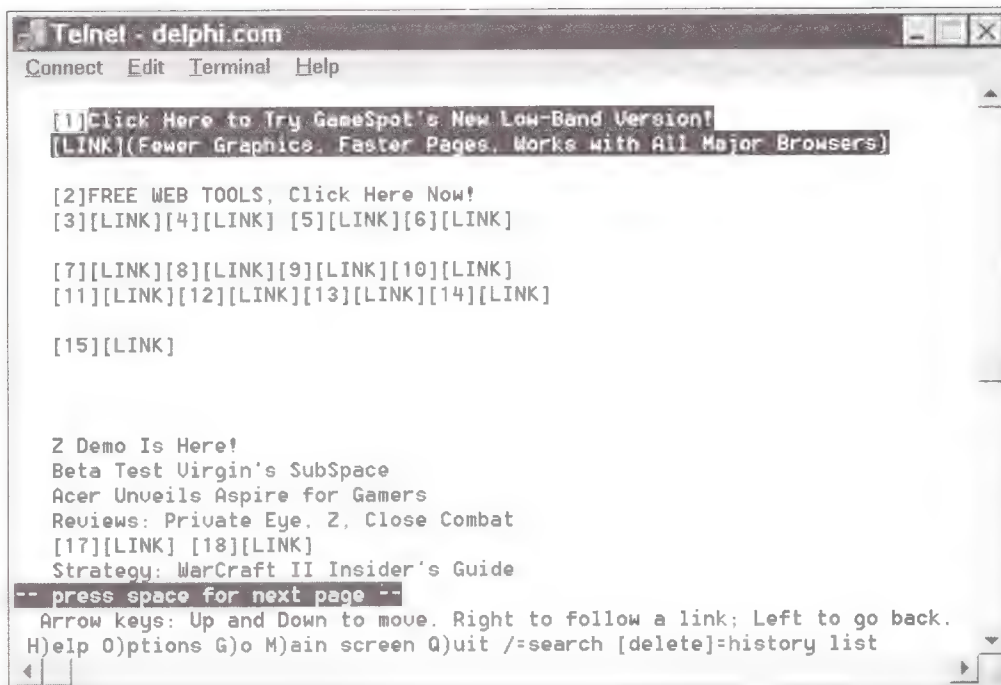
In the early '90s, a lot of people were messing around with different ways to organize and search for all the stuff that was starting to pile up out there in cyberspace. FTP, Archie, Gopher, Veronica, they seemed fine at the time, 'til a physicist working in Switzerland showed up to let everyone know just how much cooler the Net could be. This was 1992. George Bush was making the most of his last days in office, Kurt Cobain was king, and a guy named Tim Berners-Lee, working outta the European Council for Nuclear Research (CERN), unleashed the World Wide Web on an unsuspecting planet. 'Course, his first priority wasn't giving gamers a cool place to hang out—he was trying to make it easier for particle physicists to collaborate. Gotta love those scientists—they never seem to know exactly what they're making 'til it's way too late.

Boom.

At first, the Web looked a lot like the rest of the Net. Early Web *browsers* (programs used to check out the Web) like WWW and Lynx (see Shot 1.8) showed screens full of text. Screens and screens full of text. One small twist: Some of these words were bold. Select these bold words and you'd jump to another page—easy, right? They called this stuff *hypertext*. The bold words were called *links*. Any of this starting to sound familiar? People began to surf and things were alright.

Then in 1993, Marc Andreessen and Eric Bina at the University of Illinois' National Center for Supercomputer Applications (NCSA) pulled out a match and lit the fuse by writing a program called Mosaic. It was a new kinda browser with one big difference—it looked good—less like UNIX, DOS, and a particle physicists' playground, more like Windows and the Mac, like something a lot of people already knew how to





SHOT 1.8: How the Web looked then

use. And that's when the Net went prime time. And all those academics and scientists, those particle physicists, well they started to feel just a little uneasy 'cuz the rest of the world looked up, liked what they saw, and reached out to snag a piece.

In '94, Andreessen left NCSA to help form Netscape, makers of Navigator— today's top-dog browser. Then Microsoft shoved its big bad boot in the door with Internet Explorer 1.0, a piece-of-shit browser that surprised a whole lotta of people two versions later by getting its act together and giving Netscape some real competition. New companies started up, and many of 'em died out just as quick. CompuServe got hooked up to the Web. AOL too. So now we're headed toward the year 2000. The Web's got sound, the Web's got vision. Hell, it's even starting to get a little style (see Shot 1.9 for a sample).

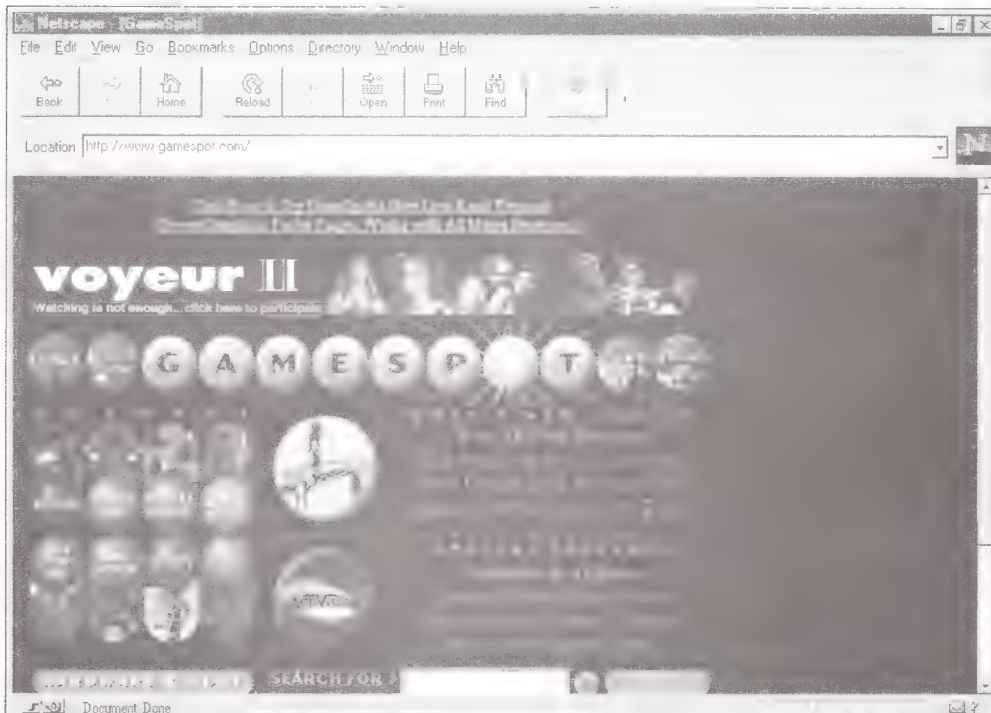
A lot of companies with big bags full of money are stepping over each other to get to the top of some hill nobody can actually see. Every three or four months, Netscape and Microsoft hit the smoke machine and let loose a new version of their software, and

everything changes one more time. RealAudio? Live3D? Internet phone? Shockwave? Java? JavaScript? It's all out there, baby, waiting for you to tune in. You lookin' for the on switch yet? You'll find what you need in Levels 2 and 3.



DUVE SEE

If yer dying for just a little more Internet history—well, the Net's got all the answers. Once you've read through Level 6, you'll know how to track down what you want on your own. And if you don't feel like waiting, here's a couple URLs for the road: <http://www.windows3.1.org/pub/www/history.html>, and <http://www.hooked.net/netvalley/intval.html>.



SHOT 1.9: How the Web looks now



LEVEL 2



Duke's Guide to the Heavy Hardware

Bet on one thing, punk: The only way you're coming out of *any* online game alive is if you've got the right skills, the right equipment, *and* the right connection. Make the wrong choice and you'll find yourself talking to the business end of some 10-year old's devastator. Not sure what a badass, bit-crunching, bruiser of a PC looks like? No idea how to get online? No worries—the next two levels hand out all the key info you'll need to keep from gettin' slowed down and splattered in the middle of an Internet fire-fight. I took it pretty easy on ya in Level 1. Now it's time to get down to business.

IT ALL STARTS WITH THE RIGHT GEAR

Let's get a couple of things clear from the top:

- ☛ I don't know you. Never met you. Don't know how much money you have, what kind of system you've got, if you're looking to buy a new computer, or if you just want to upgrade that 80-pound mail-order Brick-o-Matic you picked up back in late '93.

Upshot: Sorry, pal, I can't tell you exactly what to purchase. It comes down to what *you* need and what *you* can afford. I'm gonna tell you what your options are, what to watch out for, and what a few key technoid terms mean. See this shotgun? It's here to shove you in the right direction. After that, well, this is one mission you gotta complete on your own.

- ⚙️ This thing you've got in your hand right now—it's called a *book*. Funny thing about books: While they're getting written, laid out, printed up, trucked a few thousand miles, and purchased, time and the computer biz, well they just keep movin' on. The computer biz moves fast, and the computer *game* biz moves even faster.

Upshot: I'll tell you a little about how things look right now, from where I'm sitting, but when you're done reading this section, yer gonna have to stand up, open your eyes wide, look around, and scout out the scene. See that stuff all around you? Where I sit, we call that the future. Creepy, huh?

THE GROUND RULES

Before we drop too deep into the details, here's four ground rules for when yer thinking about unloading some cash:

1. Don't be a cheap-ass. Ten extra bucks in the bank won't buy back the time you kill trying to make a lousy gun shoot straight. There's a lot of garbage out there. Life's too short for bad hardware.
2. Whatever you buy, be ready for an upgrade. If you get a new PC and it's not designed to let you swap chips, it better be so cheap that you can throw it away in two years and keep on smilin'.
3. Read the fine print—there's a lot of techno-jargon out there. It's way too easy to spend a ton of money on stuff you don't need, or blow your bucks on a new piece of hardware that don't work with what you've already got. This baby's a minefield. Take a sec to think about where yer headed before you make that next big step.
4. Hardware reviews: Ignore 'em at your own risk. Let's try it this way: If research is a pain in the neck, then gettin' stuck with a crappy product is a knife wound to the head—don't let it happen to you.

ONE SWEET SETUP

So let's say you got the dough and yer ready for a new machine. Here's a quick look at some sweet specs. Sure you can aim higher, but this setup should get it done in style. Next time you win the lottery, just tear this page outta the book (hell, you can afford to buy another copy), haul ass down to your local computer store, and ask for one of everything. Tell 'em Duke sent ya.

- ☛ CPU: Pentium 133MHz or higher.
- ☛ Secondary Cache: 256KB or higher, pipeline-burst cache. 512K of that will give yer computer a helluva kick for just a few more bucks.
- ☛ RAM: 16MB RAM (EDO or SDRAM preferable).
- ☛ Hard Disk: 1.6GB.
- ☛ CD-ROM: Quad-speed (4X).
- ☛ Video: 3D accelerated video with 2MB VRAM.
- ☛ Monitor: 15" or 17", .28 dot pitch or smaller.
- ☛ Sound: Wavetable synthesis sound card (SoundBlaster AWE 32 or functional equivalent). Speakers with subwoofer and 10 Watts per channel.
- ☛ Joystick: Microsoft SideWinder 3D Pro or comparable digital-input joystick (mostly for flight-sim jockeys).
- ☛ Modem: 28.8K baud.

Don't worry if that technospeak didn't do much for ya. The next section breaks it down, piece by piece, starting with the basics: where to throw your dough. As always, there's no slowing down for oncoming traffic, so look sharp and keep those hands inside the moving vehicle.

WHERE TO BUY

When they're getting ready to pick up some hardware, most people just look at cash out of pocket. It ain't that simple. Where you buy depends on who you are, how much you know, and what you're looking for. If you're gunning for a whole new machine, the most common attack routes head toward mail-order outfits like Dell, superstores like CompUSA, and independent local PC stores with names like Three Guys and a Goat. Some shops do sloppy work. Others make masterpieces. Some offer solid support. Others sell you a box and say "See ya." If you're a true gear-head, little details like will-this-company-make-it-through-the-winter don't matter so much, but hey—if you're a true gear-head, what're ya doing reading this section? This one's aimed at people who have better ways to spend an afternoon than discharging their static electricity or chasing tiny screws around the inside of their computer case.

No matter how much you're spending or how carefully you shop around, ya gotta figure that within 6 months of setting up your new machine, something's gonna snap. They'll ship the machine with the wrong software, the power supply will go defective, the monitor will only show early black and white episodes of *Gilligan's Island*—whatever. Don't just look at prices and product—look at technical support and warranties. Ask around. Word of mouth matters. If you don't know a lot of people with hardware opinions, get online and see what strangers think. And if you hear that some large conglomerate has grown too fast and offers worthless telephone-only tech support, stand clear and toss your money somewhere else.



KICK-ASS TIP

Yer average computer company lasts just longer than the life span of a fruit fly. No way to be sure you won't get stuck with an expensive machine and no one to back it up, but you can shift the odds in your favor by staying clear of companies that don't have a long track record.

MAIL-ORDER OUTFITS

Looking for a mail-order outfit? Pick up any mainstream computer mag—they're loaded with real fancy fold-out ads. Mail-order companies buy in bulk. They sell in bulk. They

 KICK-ASS TIP

People who live in areas with high state taxes have another reason to shop by phone—buy out of state and state taxes don't apply. Ya gotta work through the math and the ethics for yourself. And don't forget to work in shipping and handling.

keep their prices low. High-profile mail-order outfits get reviewed in the big computer rags all the time, so you can get a decent idea how their machines stack up. And because they're national, they offer warranties that are as useful in

Miami as they are in Detroit. You move and yer warranty moves with you.

Although they often pitch a number of options (choose 1 from column A, 2 from column B), these companies think large and usually ain't big on customized configuration. And because they don't have a nearby store that you can drive down to, technical support can be a serious pain in the ass. When it's bad, it really sucks. Really. *Sucks*. Before you buy, find out if the company has any local support, if they're willing to send any support out to yer house, or if they only offer help over the phone. Give their technical support people a couple calls and see if you can get past the muzak or the busy signal. Check out their Web site and see what kinds of drivers and tech support they offer online. With a lot of these clowns, something goes wrong and your only choice is to dump your machine back in cardboard, ship it off to the Yukon, and sit around while they try and make things right. Meanwhile, your keyboard skills start to fade and your enemies grow stronger. There's gotta be a better way.

YOUR LOCAL PC STORE

Lots of local stores put together their own PCs from brand-name components. Yeah, price and quality vary, but a great local store with a good following and a decent history is a thing of true beauty. They'll make your machine to order. Their prices are competitive. And you get to yell at 'em in person when your monitor starts to smoke. 'Course, if you move and your computer breaks, you may find yerself up a creek. Think you've found a winner? Ask 'em lots of questions. Spend some time in the shop, scopin' out the clientele. Does the staff dress and smell like the Unabomber? Do their customers start every third sentence with "and here's another way you screwed up my life"? These ain't good signs.

SUPERSTORES

Superstores like CompUSA are for people who don't have a decent local store they can count on and aren't ready to roll the dice on some oversized company based in another time zone. The prices aren't great. The personal, customized service isn't great. But if you stick with the big boys, you can be pretty sure you won't get left holding the bag. They carry name-brand products that have been reviewed to death, just like the machines at the major mail-order houses. And if they go under, at least it'll make the national papers. If you can spare the extra bucks and yer new to this game, the superstores are a pretty safe choice.

WHAT TO BUY

So now you got some idea where to go. Next up, what to look for once you get there. If you're looking to upgrade, one Big Piece of Advice: Don't know what you're doing? Don't even think about installing chips, memory, drives, or cards by yourself. Doesn't matter how good you are with a pipe bomb, installing RAM by following poorly translated instructions will mess you up. Find an expert to take advantage of or some decent shop that'll do the job for ya.



KICK ASS TIP

Yer buddy who bought his first computer two months ago and can't wait to show you all the cool things you can do with a motherboard, a magnet, and a bag of nails is *not* an expert.

CPU

The CPU (central processing unit) is yer PC's brain. The better the brain, the better the game. These days, the standard CPU chip is called the Intel Pentium—mebbe you heard of it. . . .

If you've got an older machine with a 486 chip (one generation back), you might be able to hold out a little bit longer—all depends on what kinda games you play and how much unpleasantness you're willing to take. Many of today's games suffer on a

486, and it's only gonna get worse. Time to start seriously saving yer silver. And if you're still holding on to a 386, pawn yer worldly goods and get set to run with the pack.



DUKE SEZ

Intel's the 800-pound gorilla, but it's not the only chip-maker in town. Cyrix is pumping out chips with their own design that run things about as fast. Their current chips are called 6x86 and they come at speeds with a bizarre P rating that's supposed to be comparable to Pentium speeds. For example, you'll see a Cyrix P166+ chip that's supposed to run as fast as a Pentium 166. It's really a 133MHz chip, but it cooks at about Pentium 166 speed.



KICK-ASS TIP

Got an old machine you aren't ready to let go of? Turn it into a game server (so other people can dial in and get their butts whipped) or a really really fancy litter box.

Like cars and bikes, CPUs have different speeds. Instead of mph, they're measured in MHz (megahertz). Hertz are the speed at which the stuff in your chip vibrates—it's called *cycles*—so a 100MHz chip is vibrating one hundred million cycles a second. *Damn*. A 486/66 (that's 66 MHz) is a lot better than a 483/33. Looking to buy a new machine or upgrade an old machine with a new chip? For a new Pentium-based game machine, you'll find 100MHz is pretty much the baseline, 200MHz is somewhere near the ceiling. Today. As always, tomorrow's games are gonna demand and get a lot more.

If you're into fast cars, you'll probably be tempted to check out Intel's latest—the Pentium Pro. Jury's still out on this one. Most current games aren't written to take advantage of the Pro's power. Take a Pentium and a Pentium Pro with the same speed, make 'em run the same game, and the Pentium will almost always run as fast or faster. One exception still unfolding: Right now, it looks like the Pro will probably be able to take advantage of MMX, a little something Intel's churning out to make graphics rock much harder. The straight-ahead Pentium may be left out of this little revolution. 'Course, none of this will really matter to gamers 'til game makers start working MMX into their games.

Death on the Run

If you're always on the move like me, you may wanna toss a notebook computer in your duffel bag. It should fit real nice next to your RPG and ripper chaingun. Slap in a PCMCIA modem and you can dial up the Net from whatever two-bit motel you're callin' home that night. Or, pop in a cellular modem and jack in to the ARDIS service or Metricom's wireless ISP for a DukeMatch on the beach. Notebook computers let you join an Internet torture session from anywhere on the planet. The main drawback is price—these portables often cost up to double the price of a comparable desktop system. They're also a real hassle to expand.

After pure chip speed, the next thing to watch out for is what kinda of cache your CPU is packing. All Pentiums come with an 8K cache built-in, but for most games, that's just ain't enough. What you want is a secondary cache that'll keep your computer cranking. Secondary caches are small but super fast memory chips that hold the most recent info your CPU's been using. The CPU can get memory from a secondary cache even faster than it can from RAM (see below). Getting a techno-headache yet? Here's what you gotta know: A good game machine has at least a 256K cache. 512K is much better. And scout around for the words "pipeline burst." They suck in winter, but in a cache they kick ass.

RAM

If the CPU's the brain, RAM (random access memory) is where that brain thinks. After clock speed and caches, RAM's your most important weapon in the fight against lame gameplay. Used to be RAM was expensive. Used to be you could get by with 4MB (megs) of RAM. Times change. Prices have dropped from about 50 bucks a meg to more like 5–10 bucks a meg. Good thing, too, 'cuz nowadays, 4 megs won't even get you to the city limits. Games are RAM hungry, operating systems are RAM hungry, even Web browsers have started acting like real RAM pigs. Buying a new machine? Bringing your old clunker up to code? Make sure you have at least 16MB RAM on board (especially if yer thinking of running Windows 95 or NT). If you can afford more, buy more—get to 32MB and you'll feel the difference with most cutting-edge games. And if you have the cash, buy soon—prices may rise again before we're through with '97.



RAM's too important to screw up. Here's two key traps to watch out for:

- ☛ Configuring RAM's a sweet science. Is that 16MB in four 4MB chunks? Or two 8MB pieces? Blow this one and you'll have to throw out all yer RAM next time you wanna upgrade. Your computer's manufacturer should be able to tell you what's right for your machine.
- ☛ In the old days there was just *dynamic RAM*. Nowadays there's *EDO* (extended data out) and *SDRAM* (synchronous dynamic RAM). I'll keep this simple: Avoid plain old dynamic RAM. Try to hook up with SDRAM (best case) or EDO (good enough). And shoot for solid access time—60ns and you're on your way. Smaller numbers are better.

HARD DISK

You know what hard drives do. They're where you store your stuff. Size counts. So do seek rates (speed). Compare numbers. Just like RAM, hard drive prices have dropped to the floor. Buying new? Might as well shoot for 1.6GB (gigabytes)—gotta have room for all that graphic-intense shareware. Anything with a seek rate faster than 12 milisecond access rates will do the trick. Just like with RAM speeds, smaller numbers mean faster rates.

CD-ROM

Quad-speed (also called 4x) is the standard. Less than that and you'll suffer big time. CD-ROMs have come way down in price—they had to. Without CD-ROMs, most of this oversized, overstuffed, meg-inflated mayhem we've been tastin' these last few years wouldn't have been possible. Way I see it, someone real bright and all-powerful decided everyone should have a CD-ROM drive—that way software companies could throw 600 bucks worth of software on a little disk that costs about 80 cents to blow out the door. Don't fight this wave—you'll get crushed. Feel free to throw a few bucks at a 6x or 8x drive if you've got change to spare. Ya won't see much difference today, but you know it's gonna be the standard tomorrow.



VIDEO CARD AND MONITOR

Any new card worth a damn will have the basics—at least 1024 x 768 resolution and 24-bit color (displays up to 16.7 million shades). What gamers need is speed. The key here is memory. Look for 2 megs of VRAM (or DRAM, VRAM's cheaper, somewhat slower cousin) to get where you're goin'. Want some fun? Then check one of the new video cards that doubles as a 3D accelerator. This baby's just starting up, so you'll want to scope out some recent magazines to see what works and what don't. The key is compatibility. Some of these new cards are gonna be headed off into brave new territory—by themselves. If your games aren't set to take

advantage of yer new card, you've wasted your cash. Right now, one decent way to go is to hunt down a card that supports Microsoft's accelerator standard—*Direct3D*. *Direct3D* don't work with all games, but it's starting to get a pretty strong following. Another smart play is to stick near big-name companies like Matrox, Number 9, Creative Labs, and Diamond. And make sure you read those reviews.

Looking for a new monitor? Buy large. 19" and up is out of most people's range, but 17" is styling. Upgrade from a 15" and you'll never go back. Watch out for dot pitch (the space in between all the tiny dots on your monitor)—this is one place where bigger is definitely worse. In general, you wanna stay clear of anything with a dot pitch over .28 mm. While you're at it, make sure the vertical refresh frequency is 72Hz or more at the resolution you'll be using. Anything lower and yer gonna suffer through screen flicker—bad news.

SOUND CARD AND SPEAKERS

Sound cards have handed out as much pain as my trigger finger. Here's a few reasons why: DMA channel conflicts, Base hex address conflicts, IRQ conflicts. Yeah, I just live



KICK-ASS TIP

If you aren't ready for a 3D accelerator, let software take up the slack. A company called SciTech out of Chico, CA has a program they call the SciTech Display Doctor (previously known as SciTech UniVBE). You can find them on the Web at <http://www.scitechsoft.com>. The good doctor supports over 220 different SVGA chips and works with DOS, Windows 3.1, 95, and NT. This package has lots to offer. The bottom-line: for many setups, it makes games run faster. Duke sez check it out.

for conflict—but not this kind. And sure, things go better with Windows 95—at least you can use the Device Manager to get a clue what your DMA and IRQ are set at. But even Windows 95 won't answer that age-old question: Why do good people get bad IRQ settings? Aaaah, screw it. This is gettin' way too deep for me.

One more time, the key is compatibility. Don't go cheap and pick up some no-name brand. A couple of decent choices include Ensoniq and Turtle Beach. Really wanna play it safe? Creative Labs is about as safe as it gets. Some version of their SoundBlaster card seems to show up in every other mail-order box. If you've got the bucks, go for Creative Labs' AWE32 or somethin' comparable. SoundBlaster uses FM synthesis. AWE32 uses wavetable synthesis. FM synthesis fakes a sound as best it can. Usually, the results are OK. Wavetable synthesis generally uses the recorded sound of a real instrument. Almost always, much better. Good MIDI instruments can make the difference between haunting background tunes and the theme to Pac-Man.

It's easy to go a little psycho when it comes to speakers. These puppies are priced to move. Want better bass? Look for a subwoofer. Looking for a little more reality? 3D sound should set you up. 10 Watts per channel? Not bad. 20 Watts per channel? Just try not to blast the living flesh off yer bones. Got limited funds? Duke sez take the middle road. If you buy cheap speakers (20–40 bucks), you'll get cheap sound. Most people will get all the sound they need outta about a hundred bucks worth of pure noise from the likes of Labtec, Sony, or Altec Lansing.

JOYSTICK

When it comes to control, most Dukes and Quakers stick to keyboard or keyboard/mouse. Joysticks are more suited for combat sims, especially flight combat. No surprise that a serious flight jockey will usually spend a lot more cash on their throt-



DUKE SEZ

Just 'round the corner are force feedback joysticks. First ones will be out by the time you read this. You'll feel the kick when you unload buckshot. And you'll feel the pinch when you hand over a ton a money for the privilege of trying out the latest technology. Have a blast.

tle than yer average guts-n-guns specialist. If you just gotta buy a new joystick, look for digital over analog (they're usually more accurate) and get something with a lot of programmable buttons. Nowadays, there's lots of good sticks to choose from. Microsoft's got its

SideWinder 3D and 3D Pro. CH Products has its Pro Throttle. The key is to cruise on down to your local shop and find out what feels right in your hand.

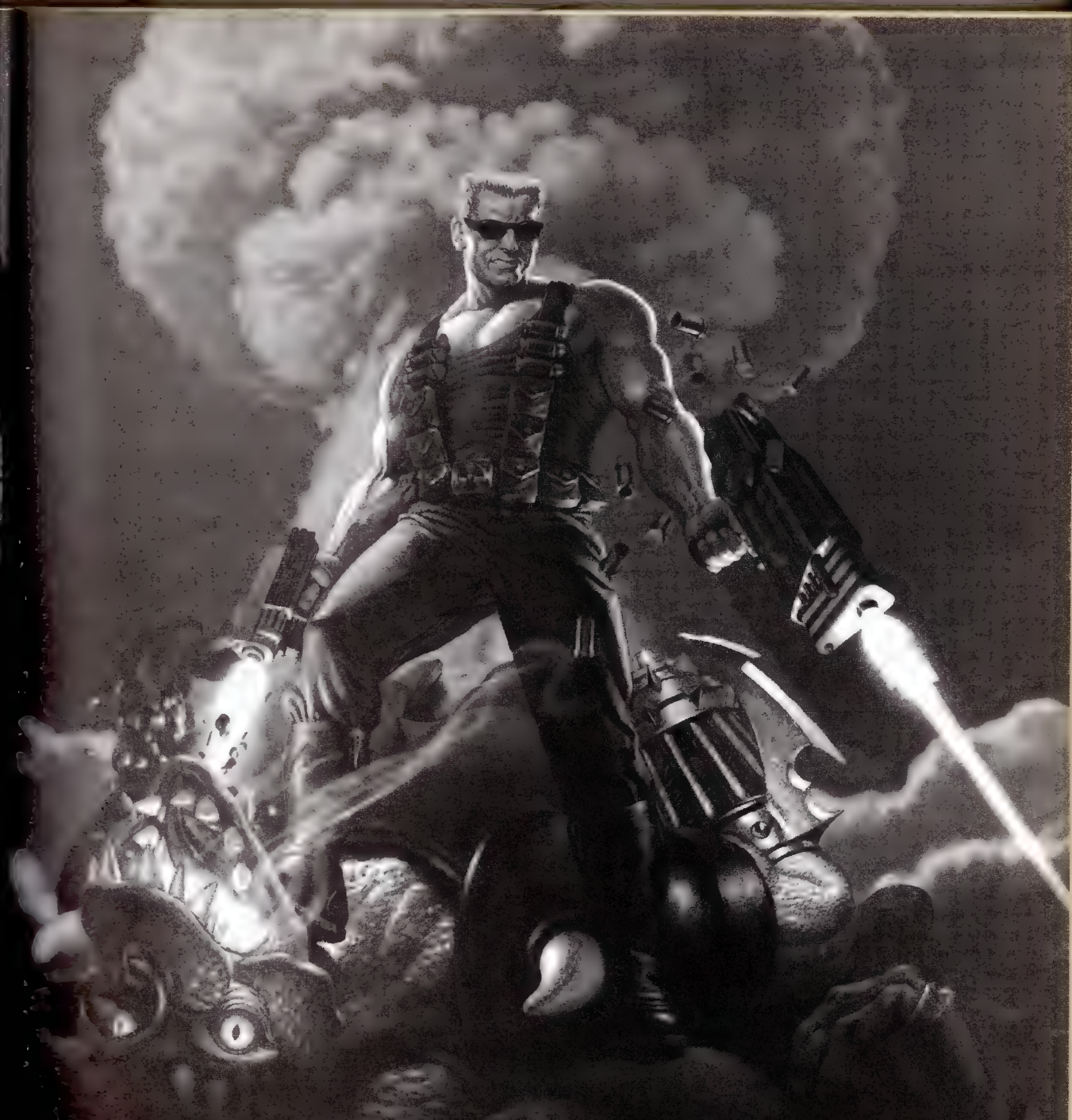
MODEM

Modems are your link to the outside world. What kind of modem should you pick up? The short answer is 28.8K or 33.6K analog. But the short answer won't cut it. Get the wrong hookup and your online battles are doomed. If you wanna make the right choices, you gotta know about all your connection options. You also need to be clear on what features to look for in a good modem and how to set your modem up. And you won't be going anywhere 'til you learn how to head for the right Internet on-ramp and get yourself plugged in. No worries—see, that's why there's Level 3, a.k.a Getting Online: The Quick and the Dead. Alright, don't just sit there gawking, scrub—move out!





LEVEL 3



Getting Online: The Quick and The Dead



Alright, scrub, 2 levels in and you've got a good idea what the Internet is, and a solid feel for how to pack yer PC 'til it crackles with power. Welcome to Level 3—time to get your hands on some serious ass-kicking online speed. When the guns start to blaze, you can't afford an Internet connection that's gonna slow you down. No worries—Duke's got you covered. Before this level's through, you'll be ready to hunt down and set up the hardware, software, and online account you need to take on cyberspace in style.

SNAGGING THE RIGHT MODEM

For most people, scoring a fast connection starts with picking up a hot-spit modem. Ya probably know that a modem is the hardware that lets you and your PC connect to other computers—whether that's latching onto an electronic bulletin board in Boise or jacking right into your pal's PC in Pittsburgh. Most of the time, you'll use your modem to chomp into the Big Enchilada—the Internet. With a fast machine, a fast modem, a good Internet account, and plenty of No-Doz, yer ready for 24/7 rocket-pounding mayhem against gamers around the world.

Your standard equipment is what's called a *28.8-kbps analog modem*. *28.8-kbps* (bits per second) is the modem's speed—how fast it churns out data. You'll also see this called 28.8 kilobaud (same basic idea, slightly different meaning) or just 28.8K. *Analog* means it works over a normal phone line. You can still squeak by with a 14.4K analog modem (one monster leap down from 28.8K), but just barely. The clock keeps

ticking. Won't be long before online gaming treats 14.4K the way it already treats 9.6K or 2.4K—with about as much respect as I got for yer average scum-sucking algae. Remember what you learned in the last level: When it comes to hardware basics, don't be a cheap ass. If you plan on spending any serious time slashing around online, pay for the speed or get ready to bleed.

If you're a real cash man, you may want to kick your online connection into overdrive with digital modems that run on what's called *ISDN* (Integrated Services Digital Network). They're priced a bit steep for most folks, but we'll give 'em the once over before this level's through. I'll also give you a minute to drool over *T1* and *T3* lines—ultra-expensive Internet connections that tear it up with more speed than I got good looks.



KICK-ASS TIP

Before you blow any bucks on a new modem, make sure your Internet Service Provider (ISP) supports service at that modem's speed. Many ISPs still don't know how to handle ISDN and some can't even deal with 28.8K. Don't waste time trying to jam a grenade into a pop gun. And don't spend the extra bucks if you can't get any extra bang. I'll hand out the straight dope on picking the right ISP later in this level.

ANALOG A GO-GO

In this world, you got analog modems, and then you got stuff that looks a lot like analog modems, even though they're actually compact, mass-produced, Satan-spawn from the Fourth Circle of Hell. The Duke had a run-in recently with one of these shitty modems that DID NOT WORK. You think I had a bad day? You shoulda seen the guy I bought this junk from. Like any good merc, I took the trash back in body bags and chain-gunned the inventory. Sure, I let the clown by the register live so's he could tell the tale, but he won't be playing the piano any time soon, not even with his toes.

Save your ammo for more interesting targets—grab some recent computer mag modem reviews before you reach for your wallet. And make sure you've got a good feel for which basic features can make the difference between kickin' ass and beggin' for mercy.

The Good Stuff

Here's a clip full of modem jargon to shoot you down the right road. Don't get too uptight about de-geeking all this crap. When you're getting ready to buy, you can compare this list to the specs on whatever modem you're checking out. If it's got all this good stuff, you'll probably do alright. If it's missing something from this list, find out why.

KICK-ASS TIP

Most modern modems also do undercover work as a fax. If you think yer gonna use any fax features, make sure the modem comes with Group III and Class 2 compatibility. With Group III compatibility, your box should work well with most other faxes and fax-modems. Class 2 means that this fax-modem processes its own fax information instead of relying on your computer's CPU to handle fax translation. This way, your computer shouldn't bog down whenever a fax comes in. If you've got the right software installed, faxes will automatically pop up on your desktop. Yee-friggin'-hah.

- ☼ 28.8K transfer rate: Today's best balance of power and price.
- ☼ Rockwell chipset: For superior communications compatibility with other modems.
- ☼ V.34 data compression: A fast data compression protocol.
- ☼ MNP 5 error correction: Good for busting through lousy phone connections.

- ☼ Flash EPROM for software-enabled protocol and BIOS upgrades: Lets you upgrade yer data and error compression capabilities using only software (should help you stick with the same modem a little longer).

Some Bad Shit

It's not all sunshine and spitoons. There's an army of weasels out there who get paid big bucks to come up with new ways to make modems suck. Here are a few of their favorite tricks:

- ☼ Proprietary chipsets: This can be a real drag when yer trying to communicate with other modems. Be extra careful with Motorola modems—many

of 'em only use a proprietary Motorola chipset, not the standard Rockwell chipset. These modems often have problems connecting to modems of any other flavor.

- ❖ Lousy manuals: Even the best modem can be a real waste of time if it comes with thin and useless documentation.

- ❖ No software drivers: Windows comes with a bunch of modem drivers, but yer still usually better off using software drivers that come with the modem. I'll cover drivers in more detail later on in this level.



KICK-ASS TIP

A number of computers sold as "Multimedia PCs" or "Family PCs" come with built-in modems that are almost always 14.4K. If one of these packages has grabbed hold of yer eye, try to make the dealer upgrade the modem to a 28.8K. If they won't move, the price better be sweet enough to cover the extra expense (and time) of picking up a new modem after the fact.

OK Buddy, Drop That Modem Where I Can See It

There're two basic kinds of analog modems: external and internal. External is almost always the better call. Sure, they cost a few bucks more, but it's money you won't miss. Here's why:

- ❖ Less hassle: External modems are much easier to hook up. *Much. Easier.* And if you got two or more PCs, you can move your modem from PC to PC in seconds.
- ❖ Better construction: External modems have their own cases, so they usually last longer and collect less dust than internal modems.
- ❖ Better communication: Lights along the front of external modems let you know what's going on while you get hooked up. If you're downloading the latest shareware game and it seems to be taking forever, those lights tell you if yer transfer's actually taking place or if it's gone way dead.



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- ☛ Good to go: Ya gotta stay flexible under fire. Unhook your external modem in 5 seconds flat, and you're out the window and off to your buddy's house



KICK-ASS TIP

When you buy that external modem, make sure it comes with a cable for connecting to the appropriate port on your computer. Appropriate means unoccupied: If you've got a serial mouse on one serial port, you've got to use the other serial port. Check what sort of connector this port has before you drop any cash.

before that octabrain busts down the door. Try making that same escape while opening up the case on your PC and disconnecting the modem card. Hey—don't forget to ditch your static electricity so ya don't frag yer motherboard in the process.

Yeah, some punks'll tell you to get an internal modem and save yourself a few bucks and some desk space. Slap 'em around and send 'em my way for a little re-education. Like I been sayin', sometimes spending less means getting less.

DSVD: When You Care Enough to Really Twist It In

One of the coolest new modem technotoys is called Digital Simultaneous Voice and Data (DSVD) and flat out, it rocks for combat. With a microphone and DSVD on board, you can let your enemy know exactly how you're gonna kill 'em, right before you haul out your RPG and squeeze the trigger. If he's frozen on the ground, make him squirm that extra sec before breaking the bad news that you're about to kick him into a thousand pieces. Yeah—Duke likes.

Right now, you'll only find DSVD on a few modems. Check out Eiger Labs (<http://www.eigerlabs.com>) for info on their HeadOn modem, or look into U.S. Robotics' VI 28.8 with DSVD (<http://www.megahertz.com>).

Some other companies should be selling DSVD by the time you read this. And once you get through Level 6, you'll be set to go online, search for DSVD, and suck down all the latest info you need off the Net.

You Ready for 56K?

Not too long ago, word on the street was that 28.8K modems pushed the limits of data transmission over analog phone lines 'til those lines screamed. Since then, some of

the biggest players began pumping out modems that ran at speeds up to 33.6K. Then we started hearing noise from companies like U.S. Robotics, Motorola, and Hayes Microcomputer Products about the 56K modems they got waiting just around the corner. These 33.6K and 56K modems use new compression and error-checking technology to squeeze out an extra pound-and-a-half of speed. Like all bleeding-edge hardware, these suckers are sure to be pretty high priced. And it wouldn't be a big surprise if at least a few of 'em came with compatibility problems, free of charge.

The Bottom Line

'Course, picking the right modem doesn't have to lead to a full-on cranial meltdown—yer goin' shopping, not plannin' a siege on enemy command. Stick with these solid citizens and you should save yourself some time and suffering:

- ❖ Amquest Hypermodem 28.8: The nice thing about this sucker is the pre-set COM4 and IRQ3 settings. Half your weekend won't be blown tweaking DIP switches and Control Panel settings trying to get the modem to work. Includes halfway respectable fax software, too.
- ❖ Cardinal MVP288XF/MVP288XV: These two modems won't set you back much and can negotiate most types of phone problem thrown at 'em. If your phone lines are giving you grief, they should be able to get through and maintain a decent connection.



DUKE SEZ

Some older PCs use a 16450 UART serial transfer chip, which just don't cut it in today's data-intensive world. You might have one of these lousy chips in your PC if it's a hand-me-down or you found it half-submerged in some swamp. In either of those cases, you got two halfway decent options: First, buy an I/O card that has a 16550 chip onboard; they're not too expensive. Second, brace for pain and buy an internal modem that packs a 16550 UART chip. Either option means someone's gotta go spelunking inside the box of rust that represents yer life's savings. If you don't already know how to do this, plan on finding (and probably paying) someone who does.

- Hayes Optima 28.8: This voice/fax/data modem includes superfast data compression and reliable error correction.
- Practical Peripherals PM288MTII V.34: Pretty strong workhorse modem that's easy to set up and almost always gets through—no matter how crummy the connection. The external modem even stands up on edge.

ISDN—KICK IT INTO OVERDRIVE

If you've got a decent machine and your Internet connection is clean (you're connecting at rates higher than 24K), a standard V.34 28.8K modem is all you really need *right now* for online combat. But someone once told me there was more to life than saving chicks and toasting alien ass—right before I fragged 'em. Assuming you also spend time cruising the Web and downloading cool new software, you could get sick of that 28.8K modem in less time than it takes to hum the Duke Nukem Theme Song. A lot of the stuff on the Net is so graphically intense and packed with huge files that sometimes a 28.8K modem just won't cut it.

If you're looking for a real power-up, and you're willing to pay the price, yer best bet is ISDN, as in I Score with Duke Nukem (or Integrated Services Digital Network). This service turns an old, worn out *analog* phone line into a *digital* phone line that can rock at speeds up to 128K! And with two separate "channels" on the ISDN line, you can even play Duke online and make a call to yer old lady at the same time.

ISDN Ain't Cheap

Bad news is, ISDN comes at a steep price—there's a ton of charges for almost everything imaginable. If you've been out of cash since last month's gun, knife, and ammo show, forget you ever heard of ISDN. But if you're rolling in deep green, get ready for:

- A new phone line hookup charge.
- Buying an ISDN adapter—two or three times the price of a 28.8K modem.
- The ISDN installation charge (could be over 100 bucks).
- The cost of running the phone line to your room.
- A monthly ISDN service fee (around 23 bucks, if you're lucky).

- ⊗ Per minute charges for local calls during business hours (up to 3 cents a minute).

Firing Up ISDN

Even if you've got the money, don't forget about the hassle factor (not to be confused with the *Hasselhoff* factor). Setting up ISDN is much easier today than it was even a year ago, but it can still take tons of effort. Here's how it usually works:

1. You call the local phone company (Ameritech, Pacific Bell, Nynex, whatever) and find out how much it's gonna cost to convert your phone line to ISDN. Lately, a lot of these companies have been running promotions 'cuz they're looking to get people hooked on faster access. While yer at it, get their checklist of stuff you need to know about getting connected with ISDN—this varies depending on their equipment, how they set it up, all that jazz.
2. Shop around for a *terminal adapter*. That's more geek-speak for an ISDN modem. Your local phone company should be able to give you some tips on what's gonna work best.
3. Call up your local phone company again and tell 'em you're ready to get this ISDN thing rolling.



KICK-ASS TIP

If you're getting an ISDN line put in, do yourself a big favor and leave your existing phone line out of it. See, when the power goes down, ISDN phone lines don't work. Period. Scared of the dark? Wanna call yer mama? Sorry, kid, if you ditched that old analog line, you're shit outta luck. Duke strongly recommends that you only install ISDN on a *second* phone line.



KICK-ASS TIP

If you run into problems after everything is hooked up, give the phone company a buzz. They can run tests to see which parts of the system are particularly screwed up.



LEVEL 3: Getting Online: The Quick and The Dead

They'll probably ask you about your current phone line and the exact name of the terminal adapter you bought. Mess with these guys and you'll get hurt—just tell 'em what they wanna know.

4. Before you hang up on the phone company, they should schedule an installation date for hooking up your fancy new phone line. This could be anywhere from 10 days to 2 weeks. It takes a while for the phone company to work their way around town, but they should make it over to your dump eventually.
5. Sit and stew until the phone company comes to install the new line. They'll only run the new ISDN line to your home "protector box"—the box on the outside of your house or apartment building. To get the line into your room, you'll either have to run it the rest of the way yourself or call a professional installer. Startin' to feel the pain yet?
6. Sit and stew some more until the phone company calls back and tells ya the new service is ready to go. Now hook up your new modem (read those directions, grunt!) and get ready for the payoff.

Avoiding ISDN Landmines

Before you buy anything, double-check the basics with the telephone company, the company yer using for Internet service, and the retailer who's selling you the ISDN hardware. Make sure everyone's talking the same language. Quiz 'em on:

- ⊕ What other equipment are you gonna need besides a terminal adapter to make it all work?
- ⊕ What kinda ISDN will the equipment support—AT&T Custom, Northern Telecom, or National ISDN?
- ⊕ What exact procedure is required to get ISDN rolling?
- ⊕ What kinda warranties and technical support are you gonna get?

After a while, this whole thing may start to feel like a big time-waster, but if yer a real online addict, you'll make that time back quicker than you can type your way into God mode.

T1 AND T3 LINES: BRING ON THE BIG GUNS

I lost a lot of buddies over the last few years to corporate life. One day your unit's out there peppering assorted scum; the next day you wake up and your former trench-mates are wearing bad ties and popping antacid. Sad, man. Real sad.

The only good news here is that many companies don't screw around when it comes to Internet service. If you've got a computer on a network that belongs to a medium-to-large business (or a college or university), ask around and find out if you've also got access to a T1 or T3 Internet connection.

A T1 and the insanely kick-ass T3 connection are the equivalent of nuclear-powered ISDN lines. The setup and monthly service bills can run into the thousands of bucks, but the upside is that tons of computers get to access the Internet the way it was meant to be accessed: with speed and style. Data transfer on a T1 line gets up to 1.544Mbps—more than 50 times as fast as that 28.8K you were feeling all bad-assed about earlier in this level. And a T3 line is 30 times as fast as a T1. Yeah—that'll do just fine.

Jacking in at Work

Network ISDN, T1, or T3 access make it into your computer through your network card—modems need not apply. If your company or school has it together, once you have a browser like Netscape or Microsoft Internet Explorer on your system, things should snap into place, kinda like bullets into a ripper chaingun. As long as the ISDN/T1/T3 line is connected to the network, you'll be ready to rock. Why do you care? Wise up, pal—if you have Internet access at work, and it's faster than yer living room connection, stop messing around at home and save the good times for the office.



DUKE SEZ

For real speed in multiplayer games, you'll wanna find some saps (a.k.a. co-workers) and Duke it out over the company network. Try not to slaughter your bosses too often—they might start taking it real personal.



INSTALLING YOUR MODEM

So you went and got yerself a new modem. Way I see, there's 1 of 3 basic scenarios:

- ☼ Scenario 1: Your modem came pre-installed with the computer.

Alright. Drop the book for a while and treat yourself to an hour or two of Duke Nukem 3D-style R&R. Catch up with me a little later on when I reach out, grab what makes a good Internet Service Provider, and nail it to the wall.

- ☼ Scenario 2: Your PC's on your desk and yer modem's still in the box.

Thing is, you didn't listen to the Duke, and you went and got yerself an internal modem.

I'm not about to try and save yer scrawny ass by showing you how to pop open your computer and start shovin' that modem card into every third open slot. Either you already know how to install cards and don't need the advice, or you're waaay better off handing your card to someone who's done it before. Even better—if you've got a friendly, certified gear-head in the neighborhood, get 'em to lean over the box with you and show you how it's done in person. This ain't the kinda job you learn from a book. It's more than what slot to drop the card in—it's how not to destroy your motherboard in the process.

- ☼ Scenario 3: Your PC's on your desk and your modem's still in the box.

You bought an external 28.8K modem from a decent company. The sun is shining, the birds are singin', and your enemies will soon die slow and painful deaths while surrounded by the stench of their own decaying flesh. Hail to the king, baby.

HOOKING UP AN EXTERNAL

Installing most external modems is a real breeze. The only complication is usually figuring out how you want your phone lines to run. Most modems have two sockets on

the back—one for the line in, and one for your phone. If you're drawing a line from the phone jack to your computer, the phone line basically goes *through* the modem. The other common setup means buying a phone jack *splitter* (a little piece of plastic that gives one phone jack two inputs) and running one phone line out to your modem and another out to an answering machine that's connected to your phone.

Hey—it's your place—you need a strategy that gets you online without makin' you relocate that heap of old clothes in the middle of the kitchen floor. Wander over to the local junior electronics shop and check out yer options.

Your modem should come with specific instructions on how to hook it up. Here's the real short version so ya know what to expect: Make sure your PC and modem are turned off. Plug in the power adapter on your modem. Connect the modem to your computer using a cable (these are almost always serial cables, but in real rare cases they're parallel cables). Connect the modem to yer phone jack using a phone line. Turn on your computer and your modem. That's it—hardware's set. Time to deal with Windows 95.



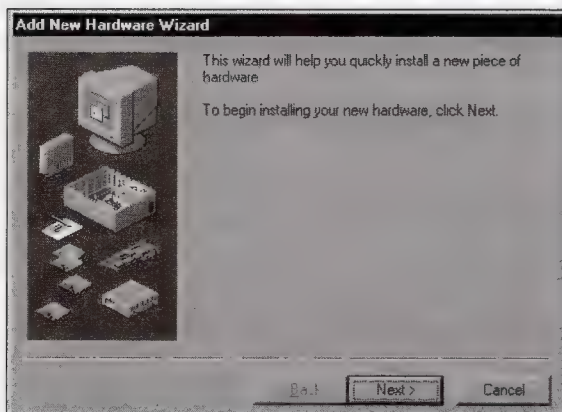
DANGER ZONE

Using a splitter doesn't turn one phone line into two—it lets you get to the same phone line two different ways. With this approach, you won't be able to phone out while you're online. More to the point: You got call-waiting? Turn it off before you go online or brace yourself for a rude interruption when some phone company calls askin' you to switch in exchange for 5 bucks worth of free long distance. If you were just about to deliver the killing blow to some punk who's been begging for pain, you're probably better off hanging up and letting the phone clowns call back after yer bloodlust subsides.

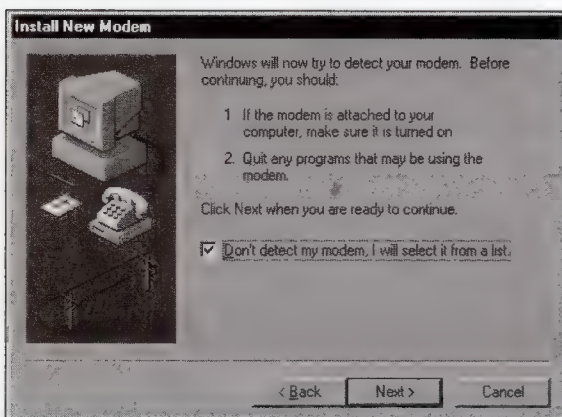
GETTING WINDOWS 95 TO PLAY NICE

Once your modem's hooked-up to your computer and the wall, the next step is installing the modem's *driver*—the software that makes it work with your computer. Under Windows 95, this is pretty simple stuff. The one decision you may have to make is whether to use the modem driver that comes with Windows 95 or the one that comes with your modem. If you got a choice, check the dates and use whichever's newer.

Here's how modem software installation works if you know what kinda modem you got:



SHOT 3.1: The hardware wizard in action. Don't get too excited.

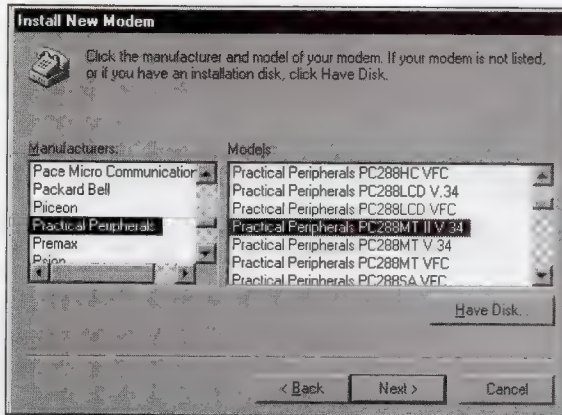


SHOT 3.2: Don't forget to check this box.

1. From the Start menu, select Settings ► Control Panel and double-click on the Add New Hardware icon to bring on the Add New Hardware Wizard (see Shot 3.1). Click on Next.
2. Click on No in the next dialog box. You know what kind of hardware you're installing—a modem. Click on Next again.
3. When the Hardware Types dialog box appears, double-click on Modems. Check the box next to Don't Detect My Modem; I Will Select It from a List (see Shot 3.2), then click on Next.
4. Decision time: Are you gonna load the driver from the supplied driver disk or use one of the drivers that came with Windows 95?

- ☛ To load a driver off the disk, put your driver disk in the disk drive and click on Have Disk (below the Models window). Next, say “driver disk

in the disk drive” four times fast. Alright. Now click on Browse and select the drive that has the driver disk in it. Click on OK. It don’t get much easier than this.



SHOT 3.3: Pick a modem in this list to install a Windows 95 driver.

- To load the right Windows 95 modem driver, find the make and model of your modem by using the Manufacturers and Models lists shown in Shot 3.3. Pick the right model, then click on Next. You’ll be asked for the Windows 95 CD-ROM or disk. Stick it in the drive and follow the prompts. Windows will install the driver.

5. The next dialog box shows you that the modem driver is installed. Click on Finish to get on with yer life.

Letting Windows 95 Autodetect Your Modem

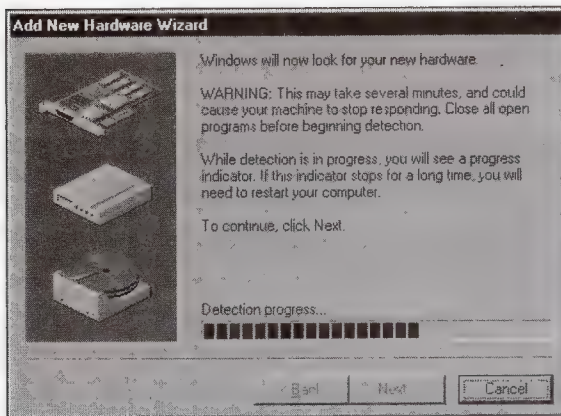
If you picked up your modem in exchange for some merc duty in the Mid-East, chances are good you don’t have a manual or a driver disk for it, and you might not even know who made it. No problem—let Windows 95 try to autodetect it for you. Here’s the plan:

1. From the Start menu, select Settings ► Control Panel and double-click on Modems. You’ll see the Modems Properties dialog box. Hit the Add button.
2. In the Install New Modem dialog

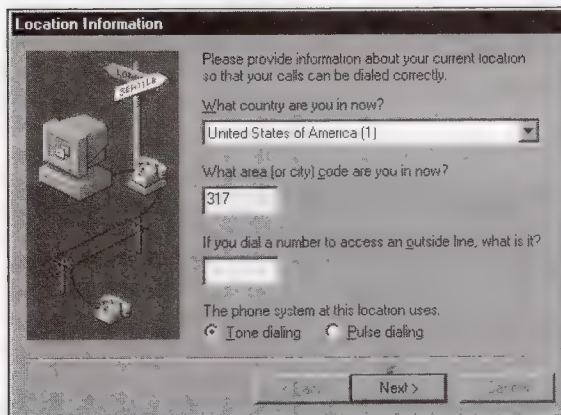


DUKE SEZ

If you have an external modem, you’ll see the lights flash on the front of the modem while Windows looks for the new hardware. This usually means you’ve struck paydirt.



SHOT 3.4: Reconnaissance in progress. Windows 95 is inspecting your system.



SHOT 3.5: If you're from planet Earth, indicate it here. If not, A-1 Bug Killer is on the way.



DUKE SEZ

You might wanna tweak a few settings later.

To do this, select **Start > Settings > Control Panel** and double-click on **Modems**. When the **Modems Properties** dialog box shows up, pick the modem, then hit **Properties** (see Shot 3.6 for an example).

box, click on Next. You want Windows to autodetect your modem, so leave the **Don't Detect My Modem; I Will Select It from a List** check box blank.

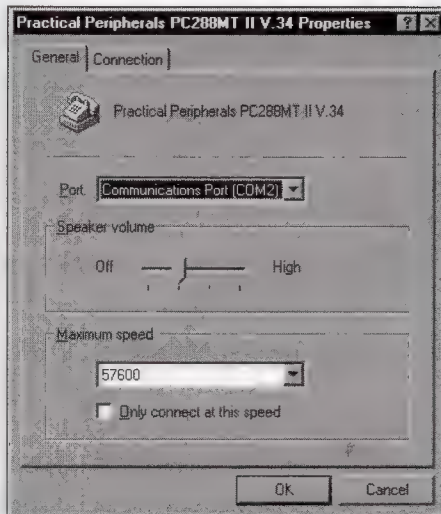
3. You'll now see Windows test every COM port looking for the unknown modem (check out Shot 3.4). After a minute, Windows will show ya what it found. Keep in mind that this search don't always come up with useful info. The modem it found might not be what you thought it was, or it may not find any modem at all. If your screen hangs, keep cool and click on Cancel. You'll have to go back and use trial-and-error to pick the right modem yerself.

4. If Windows 95 finds your modem, you'll see a dialog box like the one in Shot 3.5 for your phone number and for the type of phone line—tone-dialing or pulse dialing. Enter your

number (not yer Internet Service Provider's), click on the kinda phone line you use (probably tone dialing), then click on Next.

5. You're done installing the modem. Click on Finish.

Everything should be set, but before you enter battle, you gotta make sure your new weapon works. Here's how to get Windows 95 to test yer modem:



SHOT 3.6: Double-check this dialog box in case of modem trouble.

1. Select Start ► Settings ► Control Panel and double-click on Modems.
2. When the Modems Properties dialog box pops up, hit the Diagnostics tab.
3. Select the COM port on which your modem is located, then click on More Info.

Windows will pause while it tries to find your modem and talk to it. If everything's cool, you'll get an informative dialog box shoutin' out the good news.

TRACKING DOWN THE RIGHT INTERNET ACCOUNT

Some S.O.B.s don't have to pay a red cent to jack into the Net. These lucky bastards include:

- College students: You may be able to hook in free through the campus Internet site. Go visit the campus computer store and flash that hangover portrait on your school ID.



LEVEL 3: Getting Online: The Quick and The Dead

- ⦿ Big-shot business types: You might be able to access the Net over the company network, or use remote PC software to commandeer your work PC from home.
- ⦿ Government stooges: Some state offices have their own Web sites and give their employees reasonably rockin' Net access.

As for the rest of you, if you wanna get on the Net from home, you gotta sign up with an online service or an Internet Service Provider (ISP) and start shelling out a monthly fee. Watch yer step—these providers are all over the board in price and service. Make sure you ask these questions:

- ⦿ How do they rack up the bills (a flat-rate monthly fee or by the hour)?
- ⦿ What speed modems do they support?
- ⦿ How many 800 or local phone numbers do they have? (You don't wanna hit a busy signal or spend extra cash on long-distance charges.)
- ⦿ What kinda technical support do they have?
- ⦿ What kinda software do they provide? (A proprietary front-end? Netscape Navigator? Microsoft Internet Explorer?)
- ⦿ How old's that software? (If it's an antique, it won't be able to rock with the latest Web technology.)

I'll give ya a closer look at some of these questions in the next couple pages. Depending on what you need and where you live, yer best bet could be anything from a local mom-and-pop operation to a huge, national outfit. Many of the bigger rigs charge more money and offer broader services. Many of the smaller shops offer good prices and solid technical support. Read on for how it all breaks down.

ONLINE SERVICES

Stick around one spot long enough and a starter disk for an online service (AOL, CompuServe, and Prodigy are the big dogs) will crash down from the sky and smack you upside yer head. Every year, millions of these disks, packing a free trial membership and

the software you need to hook up, are mailed out to homes, stuffed in magazines, dropped from helicopters, and used to calm down angry mobs from a distance. If you just bought a new computer, this stuff may already be pre-installed on your PC. The trial membership usually adds up to 1 month or 10–20 free hours for checking these services out. Sounds pretty good, especially to people who've never gone online before.

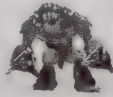
Looks like it's been working—AOL, the biggest of 'em, has over 6 million people signed up already.

The Good

Most of these online services are sellin' ease of use. Flat out, they're the simplest way to get on the Net. For people who aren't very technical, that's a real Big Deal. They're also sellin' their own community and content—polished, well manicured, and usually even easier to use than the Web. Most of these companies started out as independent online worlds—kinda like the mother of all electronic bulletin boards. Over the last few years, the walls between these online services and the Net have been steadily blown apart, but they're still holding on to their identity. You can get to the Net from AOL but, for now, you can't get to the core of AOL from the Net without an AOL membership. If you wanna check out their chat rooms, downloadable software, online versions of major game magazines, or their multiplayer games, you gotta go through the front door.

The Bad

These online services aren't cheap dates. E-mail is usually included in the minimum monthly service charge (anywhere from \$4.95 to \$13.95). Most of these services also come with some online time included in the monthly fee, but if you plan on spending a



DANGER ZONE

Assuming your reptile brain is still fully functional, yer probably already thinkin' about grabbing free, permanent online time by signing up for a different "trial account" every month. Take my word for it: They'll wear you down. Every punk with a 6-pack of AOL disks thinks he's got what it takes. Every punk is wrong. See, you have to hand over a credit card number to sign up. Forget to cancel and they start billing automatically. Mebbe you'll make it 3 months, mebbe you'll make it 4, but sooner or later you'll slip up and start handing over yer lunch money, just like everybody else.

big chunk of yer life hooked in, be prepared to hemorrhage cash. The charge for additional online time averages around 3 bucks an hour.

As for that unique content, chat rooms, and online games—it ain't bad, but be warned: None of these goods come with the same (almost) uncensored anarchy yer gonna get on the Net. Besides, once you've got the World Wide Web jacked into your living room, how much more content do ya really need?

The Ugly

When it comes to the latest Web-related technology, most online services still trail behind the ISPs. Whatever's new, they probably can't handle (yet). But the real drag has been speed. To date, their Web access has been consistently slower than your average ISP. 'Course all this may change—these guys have enough cash to do things right. So far, they just haven't had to bother.

NATIONAL INTERNET SERVICE PROVIDERS

One step over from the online services are the national ISPs, like Netcom. Most of 'em don't sell their own content or fancy online forums; they just crank out a solid set of pure Internet services and they sell 'em at a decent price. Flat rates of around \$19.95 are pretty common for all the Net you can surf. The good ones also offer tons of toll-free access lines around the country. This can come in real handy if you want to plug in while you're stuck killing time at Aunt Bertha's.

Twenty-four-hour technical support and customer service comes with many of the national ISPs. You won't be able to get that kind of 2 A.M. attention from yer local



DANGER ZONE

The actual dial-up connection you establish with one of the big boys could be consistently slower than a similar connection to a local ISP. The main reason is distance: The more trunks and connections your call makes, the more interference. If you're trying to crank along at top speeds, even the slightest interference will slow down yer file transfers.

outfit, although those locals usually try to make up for it during working hours. (Just walk in the door if you can't get someone on the phone.) Some national ISPs also deliver special services for families and handicapped users that the smaller fish can't afford. Sprint Canada, for example, offers "The

Most Home" savings plan, which combines your Internet use with your phone use and provides a large discount on calls.

Most of these guys give you Internet software designed to make gettin' on the Net real easy. Nowadays, this stuff pretty much throws itself on your computer and gets down to bizness—not bad for the rookies in the crowd. But don't be too impressed—remember that almost everyone ends up using Navigator or Internet Explorer as their primo Net software, and you can pull both of these browsers down off the Net for yourself. In the real world, your ISP's software usually matters for just two reasons: If it's easy to set up, it can save you some trouble the first time you log on; and if they send you a disk with

a recent version of Navigator or IE, it can save you some time downloading this stuff for yourself.

You'll find the National ISPs in the Yellow Pages, but you'll also find some of 'em in Internet starter kits sold at bookstores and software stores. These packages usually come with a how-to book, the software you need to get hooked up, and a handful of Net-related programs, some interesting, others worthless. They're kinda expensive (20–50 bucks), but the good ones help keep things brutally simple. To get hooked up, you should just have to drop in a CD-ROM and follow some step-by-step instructions. Rookie see, rookie do. A lot of these deals also suck you in with a trial membership.

If you know what you're doing and who you want to sign up with, don't waste money on a kit, just call the ISP of your dreams and have 'em send you the software you need in the mail—it's usually free with the account. At the end of this level, I'll also show you how to snag Navigator for yourself using your bare hands and a couple of tools that come with Windows 95. If you're new to this game and you want better Net access than the online services are selling, you may want to give one of these kits a try.



DUKE SEZ

The big three telecom companies in the U.S.—AT&T, MCI, and Sprint—are all planning on providing inexpensive Internet access by the time you read this. It don't get much more national. Their plan is to tear off a big slice of the Internet market and take away business from the little guys—the local ISPs who started popping up all over the country in the early '90s.



LOCAL INTERNET SERVICE PROVIDERS

Between '92 and '95, a loose-knit group of nerds and Net junkies beat the huge telecom boys at their own game by using high-speed, digital phone lines, a few UNIX boxes, and several hundred modems to get tons of regular people plugged into the Net. The telecom companies, who actually provide the "backbone" for the Net, couldn't get their system set up fast enough to compete. But they've got their ammo loaded now. And their targets are the Green Mountain Boys: thousands of small to medium-sized local ISPs scattered all over the country, providing almost all the dial-up Internet access to non-military/non-academic types.

If you've got a local ISP in your area, it'll be easy to track down. Pull out your local Yellow Pages and look up "Computers—On-line Services & Internet" or pick up a free local computer rag at the magazine store or the library. You'll probably see more than a few companies advertising their Internet service. Most of these ads also spell out monthly rates.

Local ISPs offer all kinds of access. Many are selling a cheap, barebones Internet on-ramp, with little or no front-end software to make hooking up any easier. These guys are for people who're ready to get a little dirty. Other local ISPs offer a kick-ass mix of services and software that can hold its own against the big guns, while throwing in a bucket full of personalized support.

Don't take anything for granted when you check out a local ISP. Make sure you check on the following:

- ⊕ Do they charge a flat rate or a metered rate? Flat access rates rule.
- ⊕ What kinda technical support do they offer? Yeah, Duke never needed no help from nobody, but *you* probably will. Make sure you get the exact hours that tech support will be available. I'm talkin' about a real, live person. Most ISPs have Web and e-mail tech support, but the only kinda tech support worth a damn is still person-to-person. The best arrangement for most small, local ISPs is tech support during work hours, 7 days a week.
- ⊕ Do they offer service for high-speed modems? Some local ISPs don't offer high-speed access. Others charge extra for it. Make sure the price is alright, and the service matches up with yer hardware.

- ❖ Does the account come with space on the ISP's hard drive where you can throw your own Web page? You may not care 'bout this now, but lots of people change their mind once they see some of the garbage on the Web and realize they could do a much better job. Ask the sales staff *before* you sign up if they provide storage space on their server for personal Web pages. Then find out how much space and how many hits you can get. Decent ISPs give you 5MB or greater for a personal Web page and OK hits in the thousands.
- ❖ If there's more than one of you hooking up on the same account, each person is gonna need their own e-mail—Duke digs his privacy. Check to see if the ISP provides extra POP accounts (technospeak for e-mail accounts) on one subscription and how much it'll set you back.

MOVING IN FOR THE KILL

Once you've snagged your service provider, it's time to sign on to the Net. Exactly how this works depends on what Internet provider you went with. If you picked AOL or one of the other online services, signing up goes something like this: You get a disk. You read the instructions. You follow the instructions. You get online. 'Course this assumes you already installed your modem like I showed you earlier in this level. It also assumes that your brain didn't take a permanent dive somewhere around page 12.

Many of the bigger ISPs also hand out their own installation software to help keep you from getting your hands too messed up. All that these Windows wizards usually ask is that you kick back, answer a few questions, and hit the Next button for a while. I'm not gonna blow 4 paragraphs on how to hit the Next button—you look like you can handle that kind of challenge on yer own.

Instead, this section's for all the people who plan on roughin' it—using ISPs that still expect their customers to strap on a bio-suit and take a walk through some technomuck. I'm talking about the barebones approach you use if your ISP doesn't send out access software or if you wanna get hooked up without waiting for them to send you a disk.

Here it is in 5 basic steps:

1. Get all the info you need about yer ISP from yer ISP.
2. Set up Dial-Up Networking on your PC so you can connect with a remote network.
3. Set up TCP/IP, those Internet protocols I told ya about way back in Level 1.
4. Tell your computer what it needs to know about your ISP—its phone number, Internet address—the whole deal.
5. Dial out and enter yer name and password. This is kinda like grafting a copper wire onto the power cable below your house. You'll be hooked up to a stream of data, but this data won't do you much good 'til you run a program that can tap into the stream. You'll get a quick look at one of these Internet programs (FTP) in this section, and I'll show you how to use it to pick up the big daddy of all Internet killer apps—a Web browser.

You'll probably find that some of these steps don't apply to you—maybe Dial-Up Networking or TCP/IP is already set up on your machine. Maybe you don't gotta go grab a browser because you've already got one on your machine. Don't sweat it. Read carefully, use yer brain, and follow the stuff that applies to you. Enter this arena without fear. You'll hit some scattered jargon in the pages ahead, but one of the groovy things about Windows 95 is that even the barebones approach makes for a pretty smooth ride.

Alright, kid, enough squawking—time to get the job done.

INTERROGATING YOUR ISP

If the ISP you picked has it together, your salesperson will give you a bunch of numbers and some other important info while you sign up. While you've got a real person on the line, make sure you walk away with all the facts you'll need to get set up. I've listed the most important stuff below. Don't worry if you don't know exactly what a DNS or IP address is. The key is writing this stuff down so you can plug it in later.

- **Yer username:** Usually your username is the first letter of your first name tacked onto your full last name. Before you call, figure out a few usernames you can live with in case some of 'em are already taken. Otherwise, you could get stuck with yer ISP's next free string of characters. You don't wanna start your online life as "Bladder245."

**DUKE SEZ**

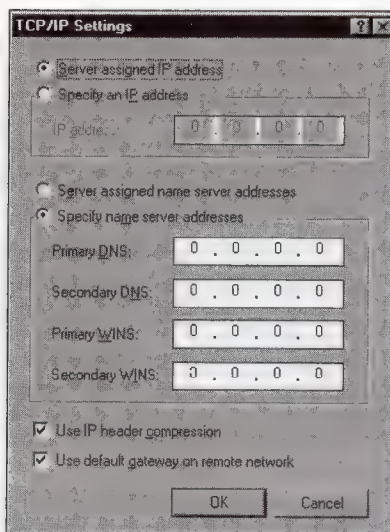
After you read this section, you may wanna talk it through with someone from yer ISP. If you're unclear, they should be able to let ya know which if any of these steps you're gonna have to take to set up your account. They should also be able to help you out if you have trouble with any of the specifics.

- **Yer password:** Some places give you a password when you first sign up. Whoever thinks up these initial passwords must be shell-shocked 'cuz they're usually unintelligible and a real drag to remember. Make sure you write it down. Some ISPs let you pick your own password. See Level 4 for the word on snagging a password that'll keep your stuff safe.

**DUKE SEZ**

An IP address is the most important part of your connection to the Internet. When you call your ISP and get an IP address, your machine has a unique address on the Internet. Other machines use this address to find you and communicate with yer PC. When you play Duke Nukem or another multi-player game over the Net, the other PCs can use this address to send info (like what your enemy's doing right now) directly to your machine.

- **SLIP/PPP service:** If the salesperson is shootin' straight, they should make it clear that Point-to-Point Protocol (PPP) service is provided. SLIP service is also used by some ISPs. This is a slower protocol—if you got a choice, go with PPP. If you don't got a choice, look around for another ISP.
- **ISP phone number:** You can't log in if you don't know where to dial up.



SHOT 3.7: You're gonna need to get the IP address and DNS address for this part of the Modem Properties dialog box.

- ☢ The *IP address* assigned to your machine at home: This and a handful of other numbers are the key info you'll need to connect to the ISP's server and the Net. Most of this junk will go in the dialog box shown in Shot 3.7. Some ISPs assign what's called a *dynamic IP address* every time you call in, so you might not get a specific IP address for your machine. No problem, but find out before you start gettin' set up.
- ☢ The IP address of the ISP's domain name server (DNS): This is absolutely mandatory if you're gonna be calling from home.
- ☢ The IP address of their secondary domain name server (if there is one).

- ☢ The name of the POP3/SMTP (mail) server for e-mail (see Level 5).
- ☢ The name of the NNTP (news) server for Usenet (see Level 5 again).
- ☢ Tech support hours and how to reach 'em: Yeah, yeah, this shit will be



DUKE SEZ

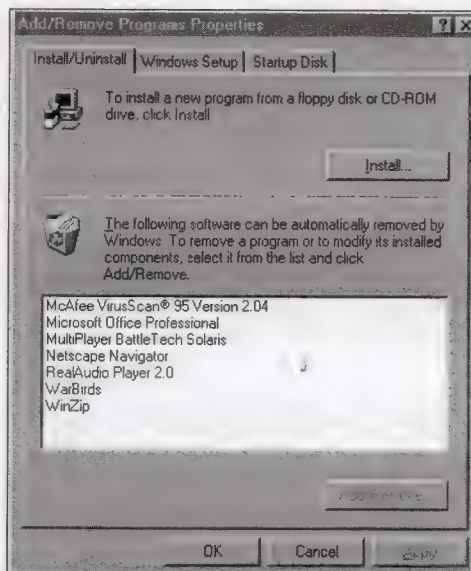
If your ISP's access software handles the technical side of things, they may tell you that you don't need to know some of this stuff. You'll probably still need to know your username, password, type of hook-up (SLIP/PPP), and ISP phone number.

so easy to set up and you'll never have any problems. Don't bet on it, spud. Find out when and where tech support is available and keep that number handy for the first crisis.

INSTALLING DIAL-UP NETWORKING

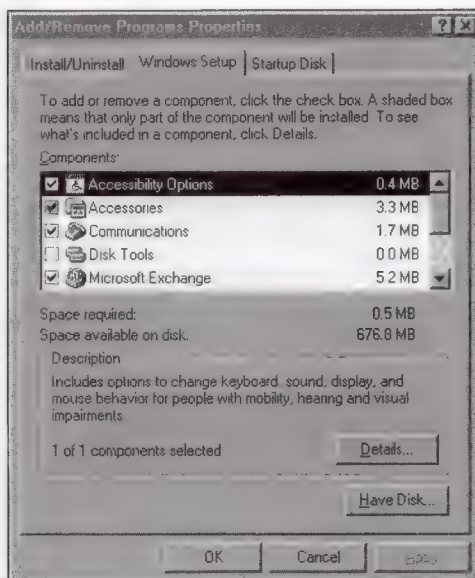
When you installed Windows 95, you may have also installed something called Dial-Up Networking. This lets your PC connect to a network (like an online service or, ya know, the Internet—that sorta thing) using a modem. But Dial-Up Networking doesn't load automatically when you install Windows 95. To check if you've got it, double-click on the icon called My Computer on your desktop. If you have Dial-Up Networking installed, you should see it next to Control Panel and Printers and your drives. If you don't see it, grab your Windows 95 disk or CD-ROM and install Dial-Up Networking right now:

1. Crank up the Control Panel (Start ► Settings ► Control Panel) and double-click on the Add/Remove Programs icon. Windows will show the Add/Remove Programs dialog box (Shot 3.8).



SHOT 3.8: Click on Windows Setup in this dialog box.

2. Click on the tab called Windows Setup. You'll see a bunch of installed Windows 95 "components", like in Shot 3.9 (they have a check next to them).
3. Select the Communications component, then click on the Details button near the bottom of the dialog box. If the Dial-Up Networking entry isn't checked, you got stiffed and you're gonna have to install it now.
4. Click on the Dial-Up Networking check box and then hit OK.
5. When the Add/Remove Programs dialog box reappears, hit OK again. Windows is gonna ask you for your CD-ROM or disks so have 'em ready. (Don't freak out if Windows doesn't bother asking for a CD-ROM and just pulls the files it needs from somewhere on your hard drive.



SHOT 3.9: Is Communications checked?
If not, get those Windows disks out to install it.

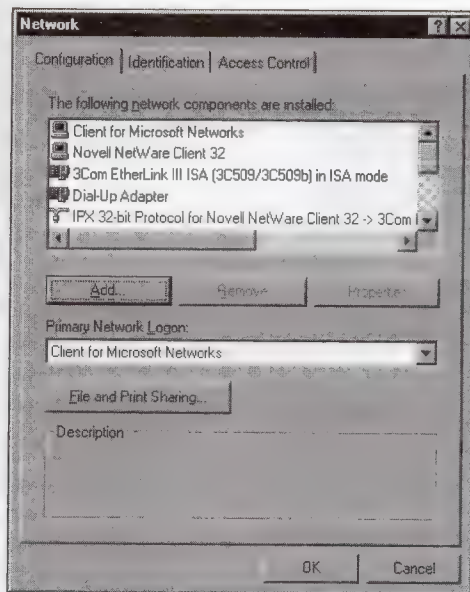
Good shit happens to those the war-gods love.)

6. After several minutes of churnin' and burnin', Dial-Up Networking will get installed and a dialog box may show up asking if you wanna restart the system. If it does, click on Yes and drop and give me 50. By the time yer finished, you'll be ready to set up your ISP connection.
7. Double-click on My Computer again. You should see the Dial-Up Networking system folder right in there with your system's drives, printers, and Control Panel. Mission complete.

SETTING UP WINDOWS 95 FOR YOUR ISP

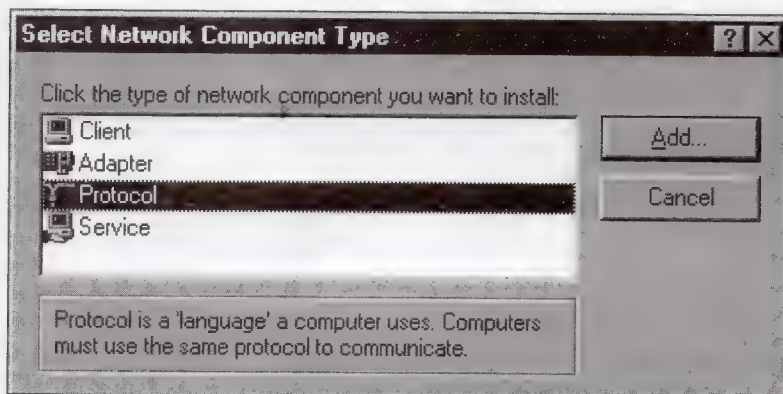
Next job is creating the connection your modem's gonna need to dial out to your ISP. It goes like this:

1. Open the Control Panel again.
2. Double-click on the Network icon, and the Network dialog box should show up with the Configuration tab selected (see Shot 3.10). Your first job is checking to see if you already have the Dial-Up Adapter and TCP/IP protocol installed in the Configuration tab. Scroll around. If you're missing either one, read on for the lowdown on how to get 'em set up.
3. To add the TCP/IP protocol, hit Add to access the Select Network Component Type dialog box.
4. Double-click on Protocol (see Shot 3.11).



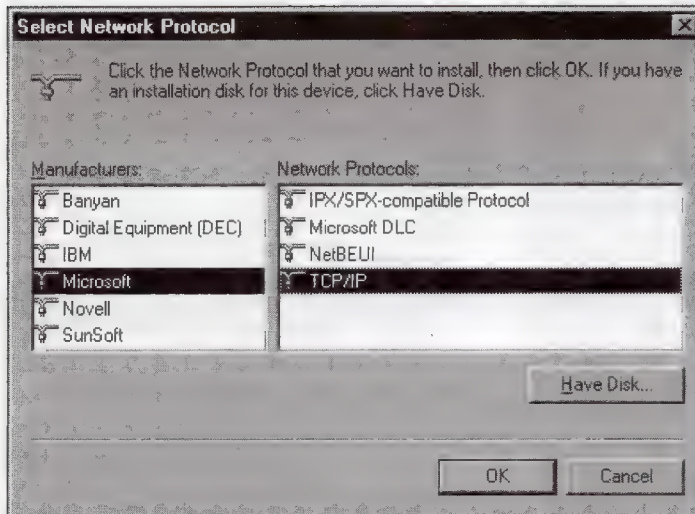
SHOT 3.10: Your PC probably won't list as much junk as this machine, but you get the idea.

5. When the Select Network Protocol dialog box shows up, scroll down the Manufacturers list and punch Microsoft, then click on TCP/IP, like in Shot 3.12.
6. Hit OK. TCP/IP will show up in the Configuration window.
7. If you need to add the Dial-Up Adapter, hit Add and then double-click on Adapter. Select Microsoft on the left side of the box, then select Dial-Up Adapter on the right side (see for yerself in Shot 3.13) and click OK.

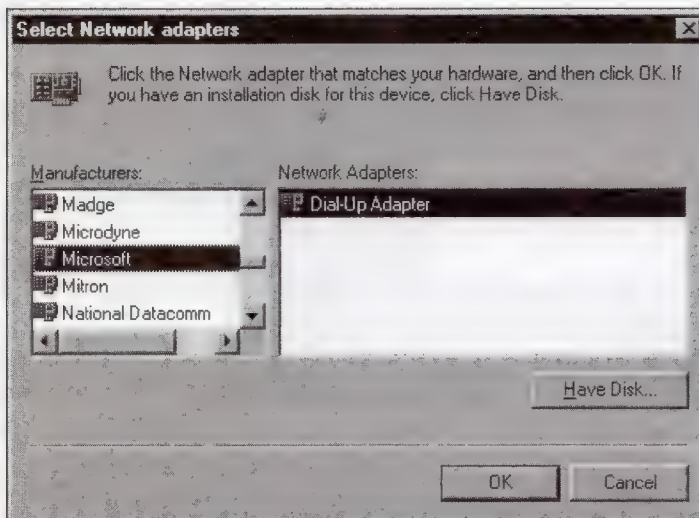


SHOT 3.11: Double-click on Protocol to install the TCP/IP protocol. This ain't brain surgery.

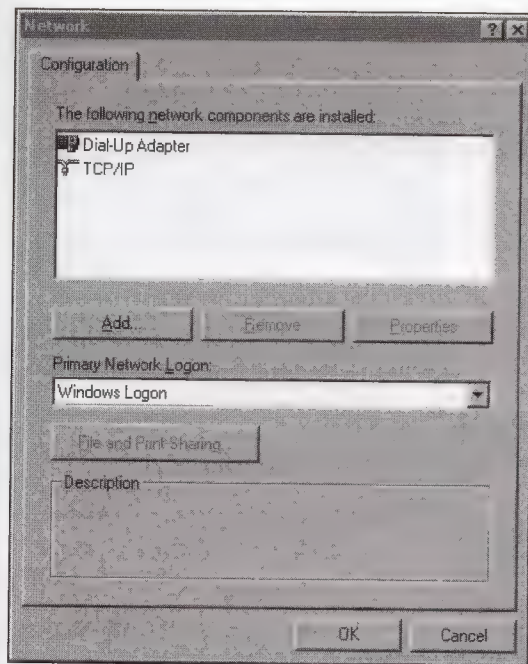
Alright, grunt—you should show TCP/IP and Dial-Up Adapter in the Configuration window (check out Shot 3.14). Click on OK to return to base.



SHOT 3.12: Yer looking for Microsoft TCP/IP.



SHOT 3.13: The Microsoft Dial-Up Adapter—you'll need this, too.



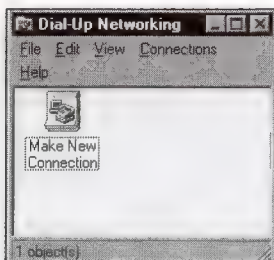
SHOT 3.14: The bare minimum for the Network Configuration window

CONNECTING WITH YER ISP

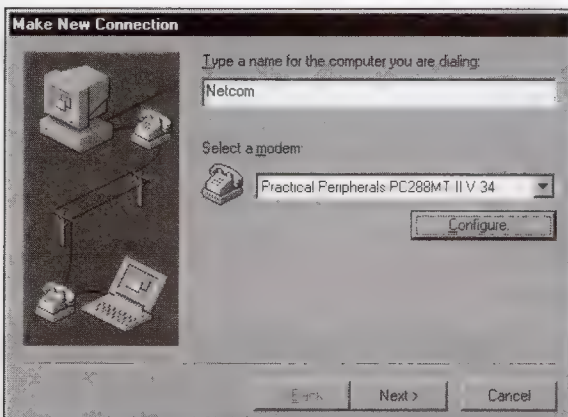
If you've been following orders, you should be prepped for the next assault. Before you scramble out of this foxhole and start runnin', grab that info you got from the salesperson back under "Interrogating Your ISP." This next section also assumes you've got your modem attached to your computer and your driver installed. We covered all this territory way back when and I'm not in the mood to repeat myself. If you don't already have it in gear, haul ass backwards in time and take care of any unfinished business.

Alright, here's how to create an ISP connection:

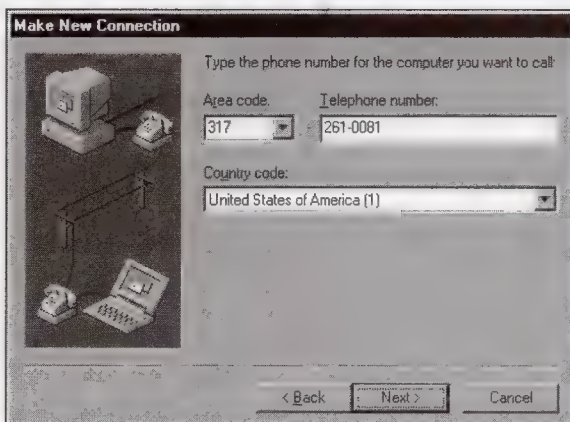
1. Double-click the My Computer icon on your desktop. Then double-click the Dial-Up Networking system folder. The window that appears should be pretty empty (see Shot 3.15) 'cuz you haven't created any connections yet.



SHOT 3.15: Not much to talk about; you haven't created a connection to your ISP yet.

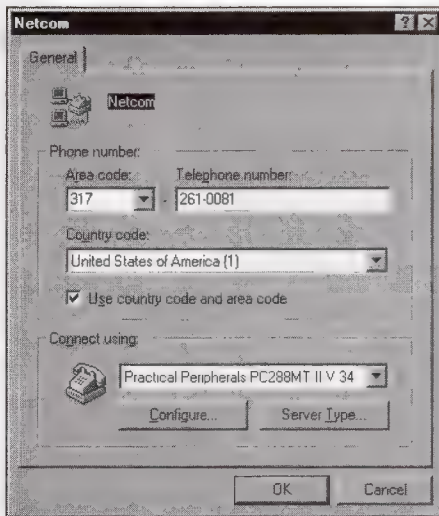


SHOT 3.16: Type the name of yer ISP in here.



SHOT 3.17: Enter the ISP's phone number in this window.

2. The Dial-Up Networking window includes a Make New Connection icon that's the key to gettin' your ass on the Net. Double-click this icon to access the Make New Connection wizard.
3. First things first: Give this new connection a name. Type something like the name of the ISP or Come Get Some or Octabrain or anything you want (see Shot 3.16). Don't press the Enter key yet!
 4. Click on the down arrow to pick the modem you're gonna use.
 5. Now click on Next to get to the next few entries: the ISP's phone number and country code. If you have to dial an area code or the 800 or 888 extension, stick it in the Area Code field. No need to enter a 1 here in front of the area code. Enter the ISP's data line phone number next. Shot 3.17 shows a Netcom number in Indiana.
 6. Click on Next again to finish this exercise. You'll see a little congratulations box and the Finish button. Click on it to mop up.



SHOT 3.18: Windows 95 is big on second chances.

If you need to change these settings a little later, follow these steps:

1. Open the Dial-Up Networking window in My Computer.
2. Click on the connection that needs to be changed.
3. Click on File ► Properties (see Shot 3.18) and make your changes.

Don't give up—the end's in sight. This is the last step before you log on. Time to enter the rest of your ISP's info in the Settings box of the connection you just created.

1. If the Dial-Up Networking window is still open on the desktop, right-click on the icon for the connection you just created (check out Shot 3.20).
2. Scroll down and pick Properties. When this connection's Properties appear, check the phone number and country code of the connection.



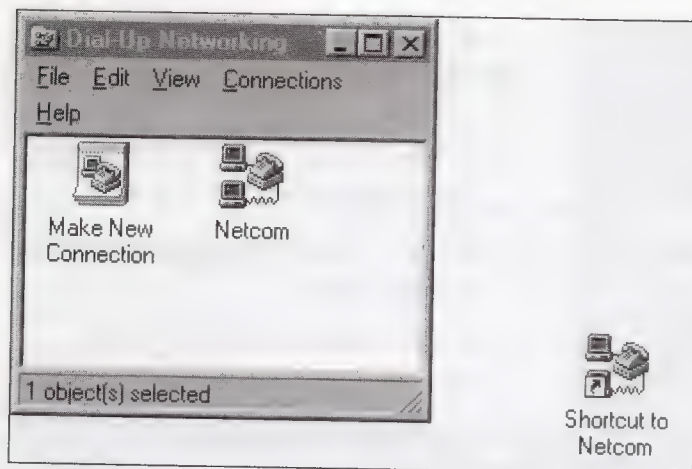
KICK-ASS TIP

You can create a shortcut to your ISP connection by dragging its icon onto the desktop from the Dial-Up Networking box. Shot 3.19 shows how easy this is.



DUKE SEZ

Complete screw-ups who still haven't installed their new modem in Windows 95 should see an Install Modem button next to the Configure button. Because this is the only button these losers can choose (the others are grayed out), they should click on it and follow the instructions in the Install New Modem dialog box. See the section "Installing Your Modem" earlier in this briefing for more info.



SHOT 3.19: Drag the connection to your desktop for quick, easy access.

Make sure the Use Country Code and Area Code check box is checked if the ISP is out of your area code. Now hit Server Type.



KICK-ASS TIP

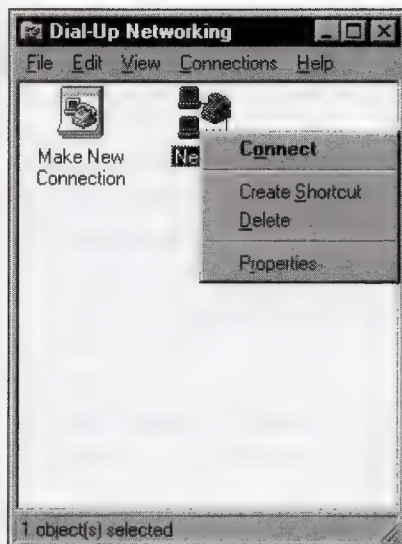
Give your new connection a name that'll help you remember what place that connection is associated with. You ever called someone up, then said the wrong name when they said hello on the phone? Nice move, dillweed.



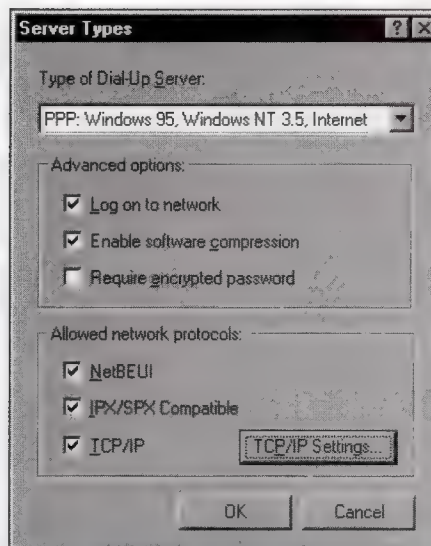
DANGER ZONE

The other settings in this dialog box should look like the settings in Shot 3.21. Make sure you don't mess with them because these are the defaults. If the connection screws up for some reason, you can always come back and try to tweak these setting 'til it works.

3. When the Server Types dialog box pops up, make sure PPP: Windows 95, Windows NT 3.5, Internet is selected (like the box in Shot 3.21). This is for the more commonly used *Point-to-Point* Protocol connection, which is faster than the older SLIP connection. If the ISP you signed up with still requires SLIP connections, click on the



SHOT 3.20: Right-click on the icon for your new connection to get to its Properties window.



SHOT 3.21: PPP should show here unless your ISP uses SLIP dial-up (they oughta tell you if that's the case).

down arrow next to this field and select the SLIP entry. Even better, dump these bums and get an ISP that supports PPP.

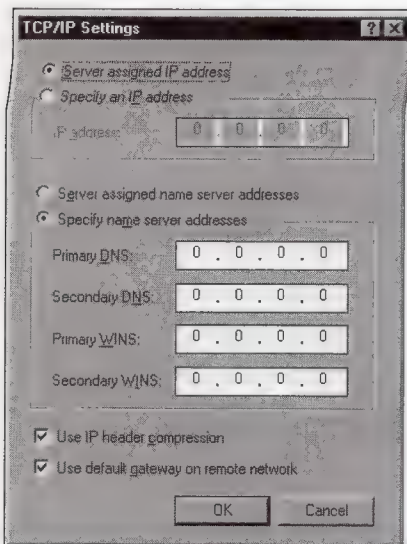
4. See that TCP/IP Settings button? Hit it and get ready to enter some long Internet addresses for your ISP. The TCP/IP Settings dialog box will appear (see Shot 3.22).
5. If the ISP gave you a specific IP address for your computer, yer gonna have to enter it in the TCP/IP Settings box. Click on



DUKE SEZ

Leave everything else alone 'til you try the connection. If the ISP gave you a WINS address, you enter it here; if not, leave the space as is. The same goes for the IP header compression and default gateway check boxes. Leave them at their defaults; it'll help you troubleshoot later if you run into problems.

Specify an IP address, then drop the address in the four fields. If the ISP told you that the IP address is assigned dynamically, make sure the



SHOT 3.22: Wake up and enter the IP address (if any) and the DNS address.

Server Assigned IP Address check box is selected.

6. The Primary DNS (Domain Name Server) box is the IP address of the ISP. This number is more important than any other for an Internet connection. Most ISPs have only one DNS address. Click on Specify Name Server Addresses.
7. Now type the Primary DNS Address you got from the Salesperson at the ISP. If you don't have this number, you'll have to call and get it.
8. If the ISP gave you another DNS address, put it in the second field—Secondary DNS. Smaller ISPs usually only hand out a primary DNS and don't use a secondary DNS. Hey—that's just one less thing to worry about.
9. Hit OK to get outta the TCP/IP Settings dialog box, then hit OK again to get outta the Server Types dialog box. Hit OK one more time to get outta the Properties dialog box.

At ease, soldier! You've made it through set up and yer ready for action.



DUKE SEZ

Most ISPs give you an IP address dynamically every time you call in. If that's the case, you don't have to worry about yer particular IP address on the Net 'cuz it changes every time you connect.

FIRST BLOOD: GETTING A BROWSER

Alright, so you've found a decent modem and installed it, signed up with an ISP for Internet access, and configured Windows 95 to hook your PC up to the Net. Not bad. Yer ready to take on your first real mission: Locate and acquire a Web browser on the Net.

This mission's only necessary if your ISP didn't give you a browser or some proprietary access software. But even if you're already all set up, it's worth reading through this section to get a feel for one no-frills way to tap into the Net.

Before you lay your ass on the line, here's a look at what lies ahead. In order to grab this Web browser, you're gonna connect to your ISP and then run a program called FTP (for File Transfer Protocol) that's already on your computer. Using FTP, you'll go online, find Netscape Navigator on a distant Netscape machine, and pull it over to your PC.

FTP is a small program that can transport you out on the Net to what are called *FTP sites*. These sites are really glorified directories, just like the folders on yer hard drive. If you have permission to log on to one of these sites, you can pick up and drop off files in these directories using a simple but nasty-looking set of FTP commands. Windows' built-in FTP sure ain't pretty, but neither is a garrote, and both are real effective.



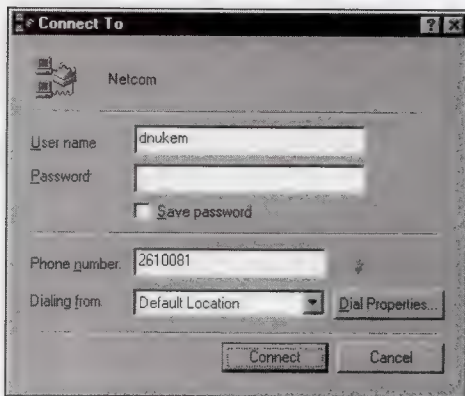
DANGER ZONE

In this section, you'll spend some time crawling around someone else's hard drive, hunting down a copy of Netscape Navigator. Yeah, I can tell you how things look to me right now, but odds are solid they'll have changed some of the file and directory names by the time you read this. If the files and directories you find aren't exactly the way I describe 'em, use the handful of FTP commands I'll show you in these next couple pages to find where Netscape has moved the goods. If you get lost, quit out of FTP (type **quit**), and contact your ISP or Netscape to get some updated directions.

LOGGING ON

For this mission, the first step is gettin' hooked up to the Net. You've taken care of the hard part. Now that everything is set in place, here's how you dial-out and connect to the Net through your ISP:

1. Find the connection file you just made. It should be in the Dial-Up Networking system folder. It may also be on your desktop if you went ahead and created a shortcut for it.
2. Double-click on the connection file. You'll set the Connect To dialog box looking kinda like the one shown in Shot 3.23.
3. Check the phone number, then click on Connect. Pop another cold one. You don't need to include yer User Name or Password: You'll be asked for these anyway in a sec.



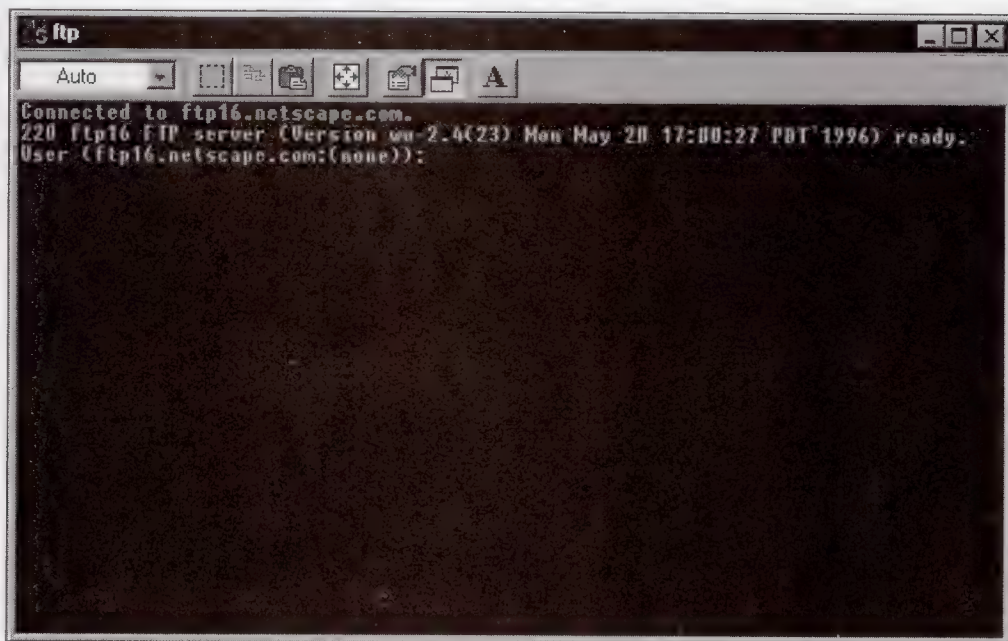
SHOT 3.23: One button away from jacking into the Net. Connect!

4. Windows will dial the number you entered for the connection. You should hear this through your modem's speaker. Mostly you'll hear static and noise, but if you listen close, you can tell if the ISP side of the connection picks up the call or leaves the connection in limbo.
5. If the call connects, a user screen should pop up asking you for your username and password. (If the Post-Dial Terminal Screen pops up, you need to enter this info into the connection's properties.) And just like that, yer in.

LET'S ROCK!

This final stage of your assault involves running FTP. In this section, I'm gonna tell you a bunch of FTP commands to type. Make sure you type real careful-like. Unlike most DOS or Windows programs, FTP is case-sensitive. That means the commands quit and QUIT are two different things. So if I tell you to enter **ls**, enter it lowercase or it won't work. Play it smart: Type these commands just like you see 'em if you wanna get the right results.

1. Choose Start ► Run.
2. In the Run dialog box, type **ftp ftp2.netscape.com** in the Open text box. Press Enter (see Shot 3.24).
3. The FTP program window will pop up and start scrolling text.
4. When you see the word User: type **anonymous** next to it.



SHOT 3.24: Nice, huh? The opening screen for Netscape's FTP site.

5. In the password field, type a minus sign, then your complete e-mail address—usually something like **dnukem@letsrock.net**. (You should have gotten this from your service provider.) This should get you into the directory structure (see Shot 3.25). Sometimes this'll take a few tries 'til it works.
6. Now type **ls** and press Enter to check out a directory list. This shows you the contents of the folder you're in.
7. You should see a folder called "pub." Type **cd pub** and press Enter to move into the pub folder. Now type **ls** and press Enter again to scan the contents of the pub folder. You should see a folder called "navigator." Type **cd navigator** and press Enter to access the navigator directory.
8. Type **ls** again to see a list of more directories. You're after the latest version of one of the best browsers around—Netscape Navigator. You should now see a bunch of numbers on the screen. Each number represents a different version of this software. (See Shot 3.26).

```

Connected to ftp16.netscape.com.
220 ftp16 FTP server (Version wu-2.4(23) Mon May 20 17:00:27 PDT 1996) ready.
User (ftp16.netscape.com:(none)): anonymous
331 Guest login ok, send your complete e-mail address as password.
Password:
230-Welcome to the Netscape Communications Corporation FTP server.
230-
230-If you have any odd problems, try logging in with a minus sign (-)
230-as the first character of your password. This will turn off a feature
230-that may be confusing your ftp client program.
230-
230-Please send any questions, comments, or problem reports about
230-this server to ftp@netscape.com.
230-
230-***** October 13, 1995 *****
230-Private ftp is now only on ftp1.netscape.com. Anonymous is supported on
230-ftp 2 through 8. If you are accessing a named account please use ftp1.
230-
230 Guest login ok, access restrictions apply.
ftp>

```

SHOT 3.25: You'll see something like this if you didn't screw up.

9. Type **cd 3.0** or whatever's highest (maybe 4.0), then hit Enter.

10. Type **ls** again to see your choices. Now type **cd windows** to get to the actual files (see Shot 3.27).

11. Once you've found the right directory, type **bin** and press Enter. This tells the server you're going to copy a binary file instead of a text file. Then type **hash** and press Enter. This tells the server to throw number signs (#) on the screen while they



DUKE SEZ

Like I said, things may have changed a little by the time you get here. If stuff's moved, you may have to poke around using the **ls** and **cd** commands. You can also type **cd..** (don't leave out the space character) to move back one directory level. If you're unsure where you are, type **pwd** and press Enter and FTP will show you yer current location. If you're real bored, type **?** and press Enter for a complete list of FTP commands.

```
ftp
Auto
150 Opening ASCII mode data connection for file list.
bin
dev
etc
lib
pub
navigator
server
subscriber
226 Transfer complete.
56 bytes received in 0.00 seconds (56000.00 Kbytes/sec)
ftp> cd navigator
250 CWD command successful.
ftp> ls
200 PORT command successful.
150 Opening ASCII mode data connection for file list.
3.0
sdk
2.01
2.02
gold
intl
226 Transfer complete.
34 bytes received in 0.00 seconds (34000.00 Kbytes/sec)
ftp>
```

SHOT 3.26: Choose 3.0 or whatever's highest.

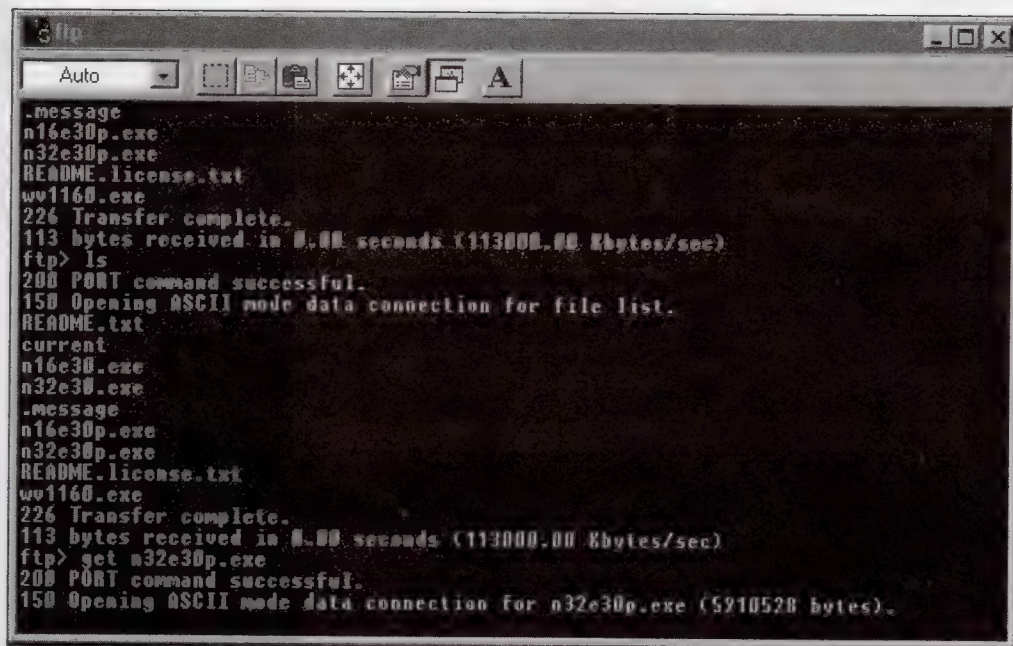


```
ftp
Auto
250-mailto:mirror@netscape.com
250-
250-
250-Please read the file README.license.txt
250- it was last modified on Sat Aug 17 23:36:08 1996 - 20 days ago
250-Please read the file README.txt
250- it was last modified on Sat Aug 17 23:36:08 1996 - 20 days ago
250 CWD command successful.
ftp> ls
200 PORT command successful.
150 Opening ASCII mode data connection for file list.
README.txt
current
n16e30.exe
n32e30.exe
.message
n16e30p.exe
n32e30p.exe
README.license.txt
wv1160.exe
226 Transfer complete.
113 bytes received in 0.00 seconds (113000.00 bytes/sec)
ftp> lcd c:\clem\temp
Local directory now C:\clem\Temp
ftp>
```

SHOT 3.27: Finally—the motherlode!

suck down the file. This is a good way to tell if your system got hung up in mid-file transfer.

12. Type **lcd c:** to tell the server where you want to copy the file on your hard drive (in this case, to your c:\ root directory). You can pick whichever directory you want—c:\temp, c:\netscape, whatever.
13. Enter **get** and the filename you want to grab (see Shot 3.28). If you see more than 1 file, snag the file that has “32” in its name. This means it’s written for Windows 95 (32 stands for 32-bit). Depending on the speed of yer connection and how busy the wires are, this could take anywhere from a few minutes (on T1) to more than an hour. Time for another 6-pack.
14. Once you have the browser on your computer, type **quit** to get outta the FTP program.

A screenshot of a Windows-style FTP application window. The title bar says 'ftp'. Below the title bar is a menu bar with 'Auto' and a toolbar with icons for file operations. The main text area shows the following text:

```
.message  
n16e30p.exe  
n32e30p.exe  
README.license.txt  
wv1160.exe  
226 Transfer complete.  
113 bytes received in 0.00 seconds (113000.00 Kbytes/sec)  
ftp> ls  
200 PORT command successful.  
150 Opening ASCII mode data connection for file list.  
README.txt  
current  
n16e30.exe  
n32e30.exe  
.message  
n16e30p.exe  
n32e30p.exe  
README.license.txt  
wv1160.exe  
226 Transfer complete.  
113 bytes received in 0.00 seconds (113000.00 Kbytes/sec)  
ftp> get n32e30p.exe  
200 PORT command successful.  
150 Opening ASCII mode data connection for n32e30p.exe (5910528 bytes).
```

SHOT 3.28: Downloading the browser

Mission accomplished. You got the browser and you're ready to load it, but first you gotta log off from your ISP (you're still connected). Move the mouse down to the Taskbar and click on the Connect To button. When it shows up on screen, click on Disconnect. If you have an external modem, you'll see a few lights flicker then shut off. The modem hung up the line.

Alright, kid, you made it back alive. You've got an Internet connection, you've used FTP, and you've scored yourself some world-class software. Next up: Level 4 and Browser Boot Camp.



LEVEL

4



Browser Boot Camp



Okay, kid . . . yer showing promise. You made it through Level 3 without me ripping you apart and serving you up as *chile con cojones*. You hotrodded your UltraDog Pentium 'til it's ready to scream. You jammed in enough RAM to make your SIMM sockets bleed. You sliced the ends off your fingers upgrading to a 16550 UART that'll squeeze the bits through faster. You cruised the 'hood to get the fastest modem it can offer. You even snagged a decent Internet service provider and managed to connect to it.

Take a bow. Grab a brew. Now park it and snap to. That fancy chunk of metal you've got won't take you anywhere 'til you learn how to drive it. That's why Duke's here to show ya the rules of the road. Here're today's marching orders:

- ❖ Learn what a browser is and what it does.
- ❖ Install that copy of Navigator you grabbed at the end of Level 3.
- ❖ Crank up Navigator and see how it handles.
- ❖ Use Navigator to score a copy of Internet Explorer.
- ❖ Load Internet Explorer and put it through its paces.
- ❖ Strip down and clean out Navigator and Internet Explorer.

WHAT A BROWSER IS

The weapon we'll be training on in this level is the *browser*. A browser is a tool for getting business done on the Web. Any decent browser has what's called a *point-and-click interface*, so anyone who can tell their mouse from their ass will have no trouble running one.

Here's what you can do with most browsers:

- ☢ You can search for just about any info on the planet. Wanna find a belt knife? Search for "belt knife" and you'll get 50,000 matches that cover everything from diving equipment to *The Story of Burnt Njal* (you think I'm kidding? Go count 'em yourself). Wanna find the latest drivers for your Ultrasound Max screamcard? Search for "Gravis" and you'll find where you need to go. I'll show you how to send out your recon units in Level 6.
- ☢ You can view pages of graphics and text on the World Wide Web—or any pages marked up with the HTML language. (There's no reason HTML pages gotta be just on the Web. As you'll see later—they can be on your computer or local network just as easily.)
- ☢ You can download tons of groovy goods—from info, pictures, and games, to demo software and crippleware. You got a taste of this in Level 1 when we checked out a handful of the hottest games sites; you'll get another look at some of the best game sites around if you make it all the way to Level 8. In this level, you'll download a copy of Internet Explorer.
- ☢ You can send e-mail to anyone who's got an e-mail account. That means most everyone worth knowing. This is a great way of keeping in touch with yer buddies—or setting up DukeMatch appointments for separating your friends from their favorite body parts. You'll drill on e-mail basics in Level 5.





- ☛ You can post to newsgroups. Say you thought of something brainy that you need to share with the rest of the world—unlikely, sure, but it could happen. Put yer insight up on Usenet and you'll find out quickly just what a genius you are. (People are real direct on Usenet. They think you're full of crap, they won't mince words—they'll mince you.) You'll look at Usenet in Level 5, too.

Bottom line: As far as most people are concerned, their browser *is* the Internet. Way I see it, there's only 2 browsers around today that are powerful enough to get Duke's business done on the Internet and Web. You should've heard of 'em both; if you haven't, yer about to. One's Navigator from Netscape; the other's Internet Explorer from Microsoft. We'll get down to business with them later in this level. First, though, you gotta know a little something about where browsers came from and how they work.

A BRIEF HISTORY OF BROWSERS

So, you wanna know how the first browser was born? Welllll . . . there was this mother of a lying serpent in the Garden, then Adam had Eve and begat Cain, Cain killed Abel and begat Seth, Seth ate Ham and begat Proton Breath . . . crap, I'm gettin' off track again.

In Level 1, you learned how the Web got started, that the acronym for the European Council for Nuclear Research is CERN, and what a hero Tim Berners-Lee was. Don't worry, hotshot—this ain't no pop quiz. But I am gonna assume you remember enough of what you learned back in Level 1 to wrap your brain around a few more facts and some real straightforward concepts.



OK—so Berners-Lee, CERN, and a buncha physicists started sharing shit on the wire. They settled on a standard for how this info would get formatted. This standard was called the HyperText Markup Language—HTML for short. You'll look at HTML some more in "Hot Metal and Methedrine," a little deeper in this level.

Right now, we're gonna pick up the story where it starts to get interesting—the year's 1993, and the big news on the Net is a program called Mosaic—the first graphical Web browser. Mosaic was created by a group of guys at the NCSA who figured it was time to flip on the lights and let everyone check out all the graphics on the Web.

Their leader was Marc Andreessen, who was at U. Illinois at the time. Marc and his crew loaded up on No-Doz and pizza and cranked out the first version of Mosaic in record time, grabbing bits of code from here and there and sorta sewing 'em together. Did a good job—Mosaic worked. People called it the first killer application for the Internet. Duke don't say they were wrong: Mosaic was free—and it rocked 50 times harder than what came before: programs called WWW and Lynx, which only displayed text and text links. So everyone downloaded Mosaic, started using it, and it spread like salmonella in a summer sandwich.

Then money got involved. That money was named Jim Clark. Clark had been swiveling a chair for years at Silicon Graphics, a company that builds really industrial workstations—y'know, the kind that'll sear your balls off if you step a little too close to the case. Clark wanted in, so he hired Andreessen to build a *better, faster* Web browser that they could make some cash with. They called the company Netscape Communications. Name sound familiar? Alriiight, maybe I *will* bother aiming at yer head. . . .

I'll take odds you already know the cool bit about what they did next: They built their new browser—a solid improvement over Mosaic—and started givin' it away for free. And it was good. And it was cool. Hundreds of thousands of people downloaded Navigator. And they passed it on to their friends. And pretty soon just about everybody on the Web was using Navigator and having a kick-ass time downloading pages stuffed with graphics. Everything from technical shit to porn hot enough to melt your brain—Navigator didn't care.

Netscape kept right on adding more and more features to Navigator. They weren't satisfied with the effects you could pull off with regular HyperText Markup Language (HTML to you and me), so they worked out extensions to the language that let it do newer, cooler stuff, and they built these extensions into Navigator. Before long, "Viewed Best with Netscape Navigator" signs were showing up all over the Web, usually matched with a link to sites where you could download their software.

So, the kids at Netscape brought on a lot of noise. And for a while, that software giant up in Washington state kept right on sleeping. But when Netscape started making Navigator work with a bunch of other programs, and word started leaking out about their plan to threaten the big application suites like Office—otherwise known as Microsoft's lifeblood—the giant opened his eyes. And once the big guy wakes up, it's a little hard to get him to lie down again. For the last year, Microsoft's been stomping





around the Net, thrashing out its Internet strategy and pumping out new versions of Internet Explorer—its answer to Navigator—faster than a love-sick teenager pumps out pimples.

Java: Who Gives a Damn?

Right now, everyone's freaking about Java. You still think Java's just an island west of Krakatoa? Yeah, well, it's also a programming language from Sun—more of those industrial-strength-workstation types. The big deal about Java is that it'll run on *any* computer: It's not chained to a particular hardware or software platform like most everything else is. Java don't care if your computer's running DOS, Windows, Mac System software, or UNIX. Hell, you can be plugging away at a minicomputer or a mainframe, and Java'll still be happy as a pig shoulder-deep in stinkin' slop.

So Java's *portable*, as the geeks put it. What's the big deal for us? Well, Webmasters put Java applets on their Web sites. Your computer downloads them and runs them in one of three ways—one, as an interpreted language, which is slower than constipated crap in a cold climate; two, as *byte code* that your computer runs a just-in-time compiler on, which is much faster; and three, as compiled machine code, which is nearly as fast as Duke's reflexes. (Only problem with compiled machine code is, yep, you gotta compile it first—and it's tied to the hardware platform it's running on, so you got different versions for the PC, the Mac, UNIX boxes, you name it. Same problem as with Microsoft Office and the other applications that Sun was trying to end-run with Java.)

Java's not up to much at the moment. You'll see flashing banners on Web sites, clocks, useless crap like that. Most Web-types are using Java just to prove they can. But soon, if the Java junkies are right, stuff will be written in Java that's actually worth a damn. Keep watching. Meantime, Duke says don't hold your breath, but do stay wise to the word on the street. If the Java wave starts to really hit, you'd better be ready to grab yer surfboard.

Me, I'm waiting for someone to implement Duke in Java so you folks can DukeMatch each other no matter what lame-ass hardware yer running. Just think: A Wintel PC could DukeMatch a UNIX box and a Power Mac. Better'n sliced bread; damn near as good as God mode. Duke believes in the wanton spreading of death and destruction across all computer platforms, cultures, and creeds. Come on.

SECURITY: COVERING YOUR ASS

Before you delicate souls rush out and start cruising the Web, there are a couple things you gotta know about how browsers work. First, every time you view a page on the Web, your browser is making a copy of that online information so that it can display it to you. That's right—your browser downloads all the information from a Web page and saves it in what's called a *cache file* on your hard drive.

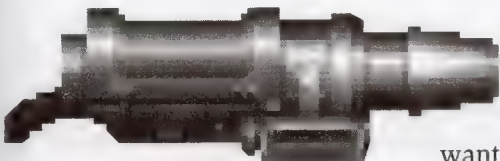
Once you've finished your day's surfing, and you're back to pretending that no, *no way* would you look at anything anyone else might consider, uh . . . *inappropriate*, someone can go in to your computer and check out exactly what you've been looking at, pixel for pixel. Add to that the fact that you're fillin' up precious hard drive space byte by byte each time you go on the Web. Sound like a drag? Don't worry—I'll show ya how to kill these problems at the end of this level.

Here's the second security problem you need to wise up to: Web sites that use Java can capture information about you *without you knowing it*. This means that wherever you go, smart Web sites may be tracking your visits, particularly when you do something that interests them, like look at something that gives them a good idea what you enjoy or how you might spend your money. You may feel like you're cruising around as Joe Anonymous in a Stealth, but truth is, you're more like a commercial airliner showing up on radar screens and getting tracked by any air-traffic controller who cares to know you're in his area. And you can bet that many Webmasters want

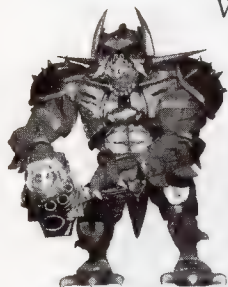


DANGER ZONE

You don't gotta be a Ph.D. to figure out some lawyers would claim that these copies your browser is making are violating copyright law—stealing, to put it in two syllables. They figure we should pay for every page we browse. Mebbe I should reach for my shotgun and sue 'em for eating some of my lead.



to know who's been sniffing around their sites. This hasn't reached problem proportions yet—your grandma probably don't know you've been checking out the rabbit fetish pages—but you want to be aware of it now so yer ready for when this problem gets worse. 'Cuz it will.



Both Netscape and Microsoft are building Web servers (the software that runs a Web site) and Web browsers, and they're including technology to make connections between the browser and the server secure. This means that at some point in the future you may be able to send sensitive info, like your credit-card number, over the Internet and Web without worrying that someone else could be able to intercept it. Right now, though, most connections aren't secure, and you want to think twice before sending sensitive info through the wire. Then think a couple more times. If you're still in any doubt, start biting off your fingers 1 by 1 till you come to yer senses. Only exception is if you're dealing with a site that absolutely guarantees security for credit-card information (e.g., Netscape's General Store). This is a monster issue nowadays and I'll hit it again in Levels 5 and 7.

HOT METAL AND METHEDRINE

You already learned that your Web browser downloads a copy of each Web page you visit to your computer. It won't kill ya to get some idea how this works. Sit still for a sec while I spell it out:

Web pages are written in HTML. Like I said before, HTML stands for HyperText Markup Language. HTML is made up of a series of codes that tell your Web browser what to do with the text or object sandwiched between 'em. The codes start and finish with angle-brackets. Notepad is a great application for writing HTML code, because no matter how much you screw up with Notepad, it can't display anything but text. If you open an HTML page in Notepad, it'll look something like this:

```
<html><head><TITLE>Duke Nukem Fever: The Country  
Reels!</TITLE> </head>  
  
<body background="nukem/pipebomb.gif" text="#ffffff"  
link="#FCFF93" alink="#DEDCE1" vlink="#ffffff">
```

Right—that's about as fun to look at as shit on a saucer. But it works. These codes tell your browser to display a title (the text between the `< TITLE >` code and the `< /TITLE >` code) and to use a GIF graphic in the background. These codes are also standard to HTML, so any decent browser should be able to read them.

So you got text and graphics. You also got hypertext. Hypertext is text with links that flip you to another location, just like a slipgate or a teleporter. Main difference is that hyperlinks show up in text in a different color, or covered by a graphic, and you can't jump through a hyperlink, land on one of your pals, and atomize him—yet. When you see a hyperlink in a page, you can click it to tell your browser to follow that link. Got it? If not, no problem—I'll swing back and knock this one around some more in a minute or 2.

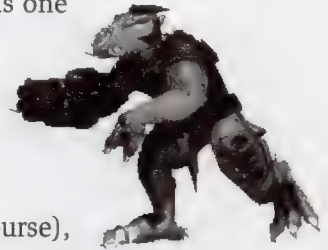
HTML is being developed all the time, and it's passed through 3 standards: HTML 1.0, HTML 2.0, and HTML 3.0. So what's the difference between 'em?

Here's the brief version:

Each is better than the 1 before. HTML 1.0 came first (of course), and it had just about enough rockin' stuff, like hyperlinks, to make people real happy—see, anything was better than plain old text driven by pain-in-the-ass menu commands. HTML 2.0 added a whole slew of things to HTML, like the ability to have tables with stuff laid out consistently (instead of neatly in place in one browser and all over the shop in another). HTML 3.0 added another chunk of features, including scrollable frames and hot audio- and video-streaming.

And here's why this matters:

As HTML continues to change, you need to make sure yer browser works with the HTML you want to read. Obvious, sure, but not quite as easy as it sounds. If you're using a browser built for HTML 2.0, and you're trying to look at a page made with HTML 3.0, you'll either miss some of the subtle points or some of the main points, depending on how complex the page is. And if you don't know what to look for, you may not have a clue what you're missing. Who sets the standards with HTML? And why do you care? Ease up, runt—one thing at a damn time.



WHAT THE WEB LOOKS LIKE

As the Web grows up, it definitely gets cooler. In the old days, all Web sites looked pretty much the same. As you saw back in Level 1, today's Web pages can look real different from each other, 'specially if the guys who made 'em pack even half a brain. You gotta remember, though, that even the most kick-ass Web pages are all basically working with the same things: text, graphics, frames, and hot links, with slices of Java and the



KICK-ASS TIP

All these cool visuals are big fun, but they can also slow you down. I'll show you how to temporarily turn off graphics later in this level.



DUKE SEZ

For the folks who are still stuck with text-only browsers, any Web page worth a damn has text hot links that can stand in for any graphic hot links. If the Web page is well designed, you'll only see the text hot links if your browser is unable to show the graphic hot links.

occasional side order of sounds or movie clips. Text and graphics I figure you can handle. Frames are pretty simple, too—it just means that framed areas of the page can move and scroll independently from the rest of it. Sounds and movie clips—you double-click 'em to activate 'em, then sit back in the command chair and dig the experience.

We covered hot links, also known as hyperlinks, in the last section. These guys are real easy to recog-

nize. In most browsers, text hot links show up as underlined text, usually in a different color. You just click on these to activate the link. You'll also see a lot of graphic hot links, where you can click anywhere on a graphic to activate the link underneath it. You'll know that you're pointing at a link when yer mouse pointer turns into a little hand with its forefinger sticking out, like it's trying to poke someone in the eye. Click on the link to go wherever it leads.

OTHER STUFF YOUR BROWSER CAN SEE

You'll see more than just the Web in your Web browser. A decent browser is the Swiss Army knife of Internet applications: It takes care of all the stuff you gotta do online and *still* has a sharp blade free to stick any pig cop who tries to shut you down. Back in the old days of the Internet and Web, you used a buncha different programs: ja browser to browse Web stuff, an e-mail program for writing and sending e-mail, a newsreader to read newsgroups, and a mess of other weak tools I won't get into here. Navigator and Internet Explorer both take care of all this shit for you.

Navigator and Internet Explorer can also check out files and places that aren't part of the Web. See, the Web uses a protocol called HTTP. What the hell is a protocol? It's

an agreed-on way of doing things. That should be a straightforward enough concept. Humans have evolved protocols for doing just about everything: Meeting people for the first time, fighting wars against 'em, making peace, betraying the peace treaty—you get the picture.

But what the hell is HTTP? Cool out. See, HTTP stands for HyperText Transfer Protocol. It's the protocol that Web browsers and Web servers use to send Web pages back an' forth. When you tell yer Web browser to go to some address that starts with `http`, you're really telling it to use HTTP to transfer stuff from the rest of the address. Most of the time you don't need to worry about any of this: You click on a link, your browser takes you there—the address, or URL, tells your browser what kind of protocol it should use.



Another protocol is called *FTP*. That stands for File Transfer Protocol—hey, I can see from the glint in your eye that you remember FTP from Level 3. Keep both those synapses firing, kid. . . . When you aim your browser at `ftp.something.com`, you're telling it to look at something or someplace using the FTP protocol.

As you cruise the Web, you may run into another protocol, this one called *Gopher*. Gopher sites, collectively called Gopherspace, used to be big back before the Web blew into town and knocked it right off the map. The few scattered remains of Gopherspace have been effectively absorbed into the Web. You can view 'em through yer Web browser and seamlessly bounce back 'n' forth between Web sites and Gopher sites.

Like I said, most of the time it won't really matter to you which protocol you're using. Your browser takes care of the dirty work. The cool thing about protocols is that they let a bunch of different kinds of computers work together without hassles. By using HTTP, a PC can read information off of a Mac or a UNIX box; by using FTP, a Mac can download a file from a PC, a UNIX box, a friendly Cray—in fact, just about any kinda computer. Not bad.

WHICH BROWSER SHOULD YOU GRAB?

Alright, so you got some idea what the Web is. So, Duke, you ask, which is it gonna be—should I get Internet Explorer, or should I get Navigator? Good question, but you're

headed toward the wrong answer. See, any Internet warrior worth his weight in hot lead will have *both* Navigator and Internet Explorer. Chew it over. . . Too slow! Here's why:

Internet Explorer's free. Bill Gates has made a big deal outta promising that all future versions of IE will be free, too; he'd better deliver on this, or he'll find himself on the receiving end of enough cybervitriol to geld a brass monkey faster than you can shout "guard yer gonads."

Netscape'll let you try Navigator for 3 months for free—longer if you're a worthy cause like a suffering student or a non-profit organism. Beta versions of Navigator are

free, too, and at the rate Netscape is cranking out new versions of Navigator, there'll *always* be a fresh beta around for those tough enough to suffer the occasional short it'll deliver to their equipment. With those kinds of price tags, it's worth the download time to get a taste of all the features these browsers pack.

What's the difference between Internet Explorer and Navigator? It starts



DUKE SEZ

Hey, what's confused ya now? *Beta* just means pre-release software—it's usually sorta working, but not so much you could charge people for it without having 'em take down the tech support lines. So, you give it to them for free and they consider themselves lucky to give it an early test drive. Only thing is, browser betas are coming out so fast and furious, some people have just about stopped using final versions—they just jump from beta to beta in search of the latest buzz.

with the visuals: Some people think Navigator is cool and Internet Explorer is one ugly mother. Others like Internet Explorer's look an' feel. Navigator 3—the latest version as Duke's pounding this out—has CoolTalk telephony capabilities and (hold onto your shades—incoming technotalk) an object-integration framework called LiveConnect to make Java applets, scripts in JavaScript, and Navigator plug-ins work better together. Alright! I been looking for one of those!

Internet Explorer 3 (again, fresh from tree) strikes back by covering most everything that Navigator does and adding a number of things of its own, including some cool tweaks to the interface (can you say *configurable?*), support for a little something called ActiveX controls that should make the Web more interactive, and all-around better performance for background downloads, so you can keep cruising in the foreground while the mother of all downloads clunks away beneath the surface. Useful for grabbing those free games while you scout out more.



Duke likes weapons. Only time I got enough is when I can't carry any more. Weapons look different, do different shit from each other, but when you're in the battlefield, you need your chaingun just as much as you need yer RPG. They perform different functions, but you'd be screwed if you

gave up the chaingun just because it don't fire grenades. Internet Explorer has some cool capabilities that Navigator doesn't have. And Navigator can do a buncha stuff that Internet Explorer can't. That's why Duke says you gotta have both. If you followed along through Level 3, yer halfway there. This level's gonna show you how to finish the job.



DUKE SEZ

You want it more formally? Current versions of Navigator and Internet Explorer each implement a different set of extensions to the HTML 3.0 standard. Some of these extensions will be canonized in HTML 3.2, HTML 4.0, whatever. But you watch Microsoft and Netscape at the moment, you gotta figure they think whoever dies with the most extensions wins.

A DISPATCH FROM THE FRONT LINE IN THE BROWSER WARS

Here's the other reason you gotta have Navigator and Internet Explorer: Microsoft and Netscape are busy battling each other in the war for dominance in the browser market. Lines have been drawn, and neither side's lookin' to move anywhere but forward. Only way to be sure you're gonna win is to ally yerself with both.

Now that Internet Explorer is finally on its feet and kicking, Netscape's taking the Microsoft threat as seriously as Microsoft takes Netscape. Bill Gates and Jim Clark have each developed heavy-duty strategies for making sure that their browser becomes the chosen one. As I'm pounding this out, here's how it breaks down:

- Netscape had one mean mother of a headstart—not too long ago around 85% of all browsers in use were versions of Navigator. Those numbers have begun to drop, but Netscape isn't in the mood to let go. Their biggest advantages are their installed base and the fact that Navigator runs on most every computing platform known to sentient beings, while Internet Explorer 3 runs on Windows and . . . Windows. Advantage: Netscape.

- ☛ Gates has a few tricks up his sleeve along with enough bucks to give Internet Explorer away free to every Web-surfing son-of-a-bitch in the world, just to piss Netscape off. Microsoft's also been busy making alliances with America Online, CompuServe, and an army of ISPs. One example of how this works: AOL was set to use Navigator as their standard browser 'til Microsoft stepped in and offered to put an AOL icon on the Windows 95 Desktop if AOL used Internet Explorer instead. Hard to argue with that kinda muscle. Advantage: Microsoft.

What's the future hold for browsers? Well, even ol' Duke's crystal ball's a little hazy on this one. Microsoft sez some future Internet Explorer is gonna worm its way deep enough into the Windows interface that you'll be using it to browse your hard drive, your local network, and the Net all at once. They're also retooling the applications in Office 97—and probably every other Microsoft application from here till SkyNet brings down Judgment Day—so they're all Internet-enabled. Anyone using 'em will have HTML files bustin' outta each orifice, and you'll be able to use your browser to attack everything from a word-processing document to an industrial-strength database. Meanwhile, the word on Navigator 4 is that it's gonna be a bunch of small, maneuverable pieces that work together to build a complete operating system designed to frag Redmond into a thousand shards . . . yeah, you'll be stewing in suspense 'til you download the next beta and find out the score first-hand.



Long and the short of it is that you'll probably want to give 'em both a ride and see if you like the way they handle. Even if you think Internet Explorer's interface sucks and it corners like Senna's corpse driving a Crown Victoria, you gotta admit the price is right.

Other thing about these browsers is, they ain't gonna be hard to get. In fact, you'll have to work real hard to avoid 'em. Like I said, Microsoft is giving Internet Explorer away free, and that means they're bundling it with everything they can—Windows 95, NT, their Office application suite, AOL, CompuServe, loads of ISPs, and more. Navigator has their own collection of ISPs. They also have an army of links posted all around the Web, designed to lure people into their mothership. What the hell—take the bait.

WHO WINS IN THE BROWSER WARS?

Here's the good news: Right now, the main winner in the browser wars is you, scrub. With free copies of Internet Explorer, and free trial copies and betas of Navigator for the taking, it's dead simple to get and run the 2 best browsers around. And they may be killin' themselves to come out on top, but in the short term, that just means better features and a cooler Internet for you.

WHAT IF YOU HAVE A DIFFERENT BROWSER?

Okay, I can see some miserable mother poking up his hand in the back there . . . c'mon, kid, shout it out. Huh? You wanna use a browser other than Navigator or Internet Explorer? Welllll . . . you *can*, but why? If you're on DOS, *or* Windows (95 or NT), *or* the Mac, *or* OS/2, *or* UNIX—you wanna be using Navigator or Internet Explorer, or both if you're using Windows 95 or NT. If yer already set up with some other miserable browser, you can use it to get Navigator or Internet Explorer, no problem.



PREPARING FOR THE HUNT

Alright—'nuff background briefing, it's time for a little action. First up, yer gonna unwrap that copy of Navigator that we sucked down at the end of Level 3 and get it cranking on that shiny new Internet connection of yours. Once you've done that, you'll see what Navigator looks like and what it does, and then you'll go on a hunting trip and see if you can add Internet Explorer to your list of kills. Once you've got both browsers loaded, you'll work a few hundred rounds through 'em to set your sights. After that, you'll strip down the browsers, clean them out, and get 'em ready for inspection.

Like you know if you've read my bio, I'm real smart and I'm hot shit in a firefight—but even I can't see what's lurking on the hard drive of that Packard Bell Grandmother's Ruin TurboChip Special with twin overhead cams you bought before you read my advice in Level 2. So the time has come for you to squeeze whatever you got in yer skull and apply all your common sense. Odds are, some parts of the next few sections won't apply to you. Already got a copy of the most recent Navigator or Internet Explorer

installed on your computer? Then you don't need to install it again. It's real simple: Do what ya gotta do. Skim what ya don't.

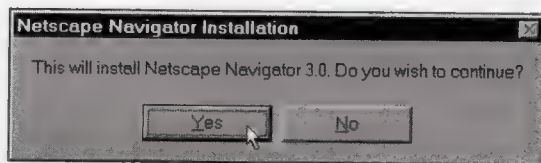
BROWSER UPGRADES: GOOD, BETA, BEST

Before you get too deep into the woods, understand how this game is played: Staying on top of the latest and greatest stuff on the Internet and Web means having the latest technology—getting the latest versions of Navigator and Internet Explorer as soon as they're fit for use. Note the phrase, kid—just 'cuz Microsoft or Netscape thinks they should crank out another beta of Internet Explorer or Navigator don't mean that software's ready for prime time. Take 'em with the usual pillar of salt.

Which betas you try and which you avoid is your call. Just remember that I won't be around to pick you up when you fall on your ass and shake up your hard drive. Keep checking the Netscape and Microsoft Web sites, scout for the buzz on the new betas, and strike when ready.

LOADING NAVIGATOR

So you sucked down Navigator; now you need to install it. Piece of cake: This mission is simpler than pissing downwind in a hurricane. Double-click on the file you've down-



loaded from Netscape's Web site (or wherever). Navigator will make sure you know what you're doing.

If you know what you're doing, hit the Yes button. (If you don't, close the book, hit yourself in the head with

it twice, then go back to Level 1 and start over.) You'll see the Welcome dialog box. Click the Next button to get to the next dialog box. This ain't so hard.

The next dialog box is the Choose Destination Location dialog box. The installation program will suggest installing Navigator in a subfolder under the \Program Files\Netscape\ folder. This is as good a place as any for now. (Later on, if you're trying to keep some older version of Navigator alive, you'll wanna change the folder by clicking the Browse button and picking another folder in the Choose Directory dialog box.)

Next up, in Navigator 3, you gotta choose whether to install CoolTalk so you can talk over the Internet. This is another of those simple decisions: If you've got the

hardware to make CoolTalk crank—a mike, speakers or headphones, and a sound card or modem that can handle telephony—and if you think you wanna give it a run, install away. If not, lock your eyes on the horizon and keep movin’.

Kick back while the Setup routine runs. If you installed CoolTalk, just after you’ve wrenched the cap off a cold one with

your teeth, Navigator will ask you if you want to enable the CoolTalk Watchdog. Here’s the lowdown:



DUKE SEIZ

As you learned in Level 3, you need to have a connection to the Internet to get online and run your browser. This can be anything from a dial-up connection on a stand-alone PC to an instant connection at blazing speed through a dedicated T1 or T3 line. I’m assuming in this section that yer all set up with your connection. If not, yer demoted one level back. Get your ass outta here, scrub. I don’t wanna see you ‘til you’re hooked up, got it?

- ❖ If your computer is permanently connected to the Internet, run the Watchdog to have CoolTalk automatically start up when another user phones you. Yeah—*permanently* means it’s connected all the time, *with the line open*.
- ❖ If your computer isn’t permanently connected to the Internet—say, if you normally connect via dial-up—choose No.
- ❖ Huh? No, you moron—if you didn’t install CoolTalk, you don’t get to install the CoolTalk WatchDog.

Next, the Navigator installation program will ask if you wanna connect to Netscape’s Setup site to continue setup. Choose Yes or No. Hint: Choose Yes unless it’s bedtime and yer mommy’s calling.

If you choose Yes, Navigator will offer to display the ReadMe file. This is optional, but there’s usually a nugget or two of worthwhile intelligence in it. Me, I got all the intelligence I need—did I ever mention how great I am?—but hey, if people wanna tell me stuff, I don’t usually blow ’em away ‘til after I’ve given it a listen.

Next thing you'll see is the Netscape License Agreement, a gripping piece of deathless prose. Read it if yer interested. But if the rancid stench of lawyers makes you choke up blood and reach for your shotgun, here's the dope:

- ☢ You can't sublicense your copy of Navigator, or reverse-engineer it into a calculator and a firetruck, etc.
- ☢ There's no warranty. Lock up your files and plug your daughter into a UPS.
- ☢ Copyright law issues you encounter while using Navigator are your problem.

If you can handle this, click the Accept button to continue with the installation. Here's where it gets interactive. Navigator will crank up what it identifies as yer usual Internet connection—probably the one you set up in Level 3. Fix it if it comes up wrong, but Navigator's usually pretty good at this.

Connect to your ISP and log in. Once you've done that, Navigator's gonna take you to the Netscape Setup page, where you can turbocharge yer browser with stuff you forgot to download and with plug-ins, (add-on software designed to work with Navigator to handle types of files that Navigator can't yet). Initiative test, hotshot: Check these out and



DUKE SEZ

Plug-ins used to be way cool back when they were the only way to have Navigator play stuff like movies for ya. Nowadays, Navigator's got most of the bases covered, and the plug-ins are getting less vital. But there are still some cool ones left, like Microcom's Carbon Copy/Net, which lets ya grab hold of another PC and control it over the Internet.

download the ones you think you might wanna taste. Leave the business plug-ins alone unless you've got a cute database you just gotta cozy up to on a cold evening.

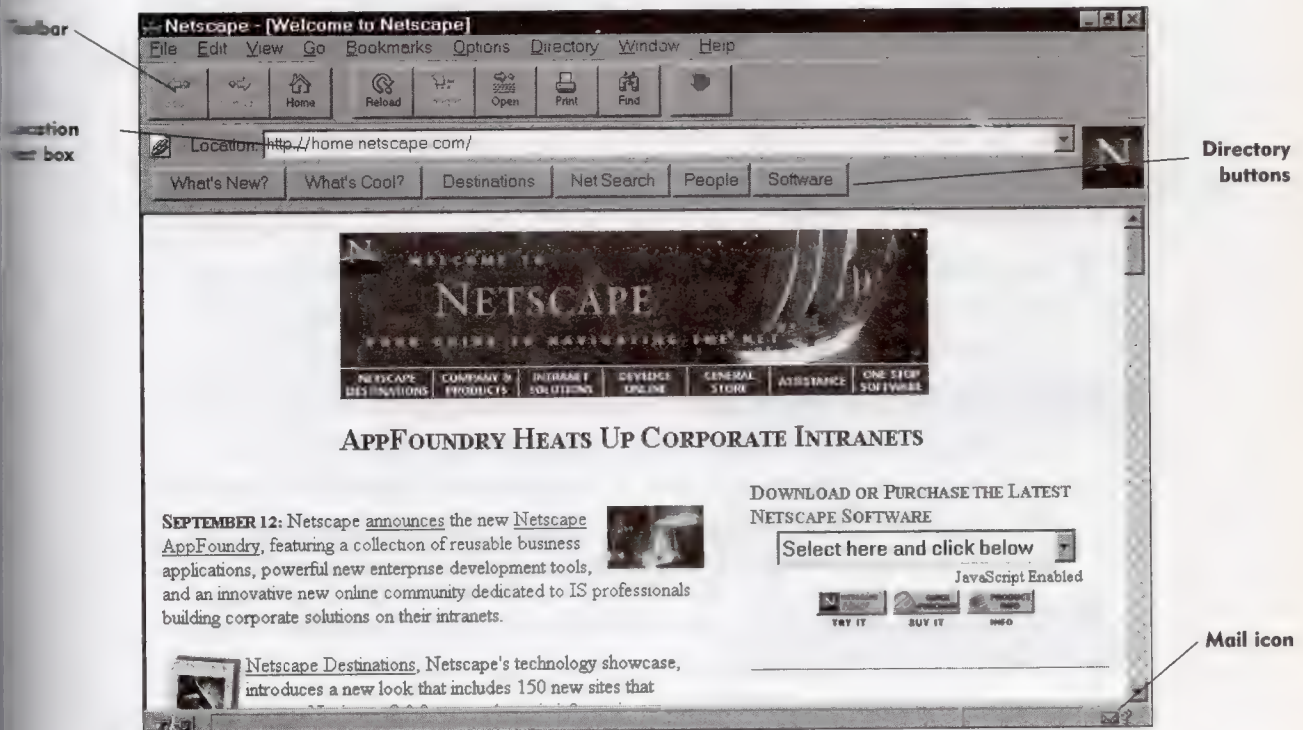
Now you're cranking. Reason number 1 why browsing the Web is so damn popular: It's real easy. Check out Navigator for a bit and see if you can get the

hang of it. For starters, jump to Level 1 and grab the address for that 3D Realms Web site I showed you. If you can't figure out how to get there, not a problem—read on for Duke's tips on how to kick ass with Navigator and make yer way around the Web.

KICKING ASS WITH NAVIGATOR

Alright, done taking yer first tour? Welcome back. You're looking a little outta breath—guess the Web agrees with you. Now park your carcass and get yerself under control. If you closed Navigator, start it again by using the Start menu or by double-clicking the Navigator icon you should find right on your desktop. If you aren't smart enough to deal with this rocket science, go grab a Windows 95 basics book and use it to thwack yerself on the head. Mebbe you'll shake something loose.

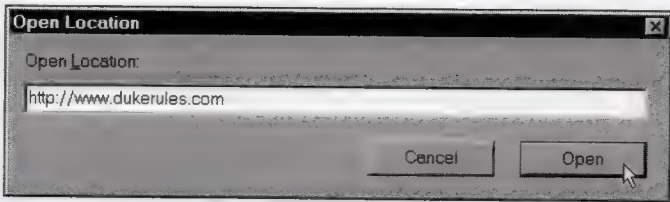
Once you've started Navigator, you should see something like Shot 4.1.



SHOT 4.1: Netscape Navigator in action

CRUISING THE WEB

Real easy:

- ❖ To surf to a URL (Web address), go File ► Open Location. Navigator will show the Open Location dialog box. Enter the URL in the Open Location text box and punch the Open button.
 - ❖ To open a file on yer local hard drive or network, go to File ► Open File. Navigator will show the Open dialog box. Snag the file the same way you always do in Windows. Then hit the Open button to open it.
- 
- ❖ Click the buttons on the toolbar if you wanna use your mouse to steer your browser around.
 - ❖ To go back to a site you visited pretty recently, snag its URL from the Location drop-down list. You can also type a Web address straight into the Location text box, the box at the top of the screen.
 - ❖ If a page freezes on you half drawn, hit the Stop button on the toolbar and then the Reload button. Things kinda jam up on the Web when there's too much traffic, just like the Santa Monica Freeway. Hitting the Reload button lets you shake off the traffic right around you and make another run into the Web. Sometimes it helps. Sometimes it don't.
 - ❖ If you get hit with a Document Not Found error or The Requested URL Was Not Found error (the famous error 404), it can mean 2 things: Either traffic's bad, or the address you're using is wrong. Check the address—if you typed it, make sure the slashes are the right way around and the periods are in the right places—and try it again. Sometimes you'll bust through a roadblock on the second or third try. Other times, the page

will have just moved, and yer gonna have to search for it; Level 6 will show you how.

SAVING TIME ONLINE: TURN OFF GRAPHICS

If you're using a really slow connection—say, you're stuck in some shithole next to a big salt lake or something—you may want to turn graphics off while you cruise around. You can turn 'em back on once you get where yer going. You may get the feeling that you're back in the Stone Age. Me, I like to think of it as post-apocalyptic chic.

By turning graphics off, you can get text to blaze through at a good rip, even when yer stuck with a slow connection. To turn off graphics display in Navigator, go to Options ► Auto Load Images. To turn 'em back on, choose the same thing again.

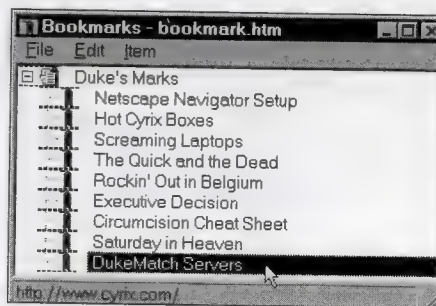
USING AND ABUSING BOOKMARKS

A bookmark is a way to keep track of Web pages you think you might wanna go back to. As you add bookmarks, Navigator builds a list that you can organize and generally screw around with.

Working with bookmarks is point-and-drool intuitive:

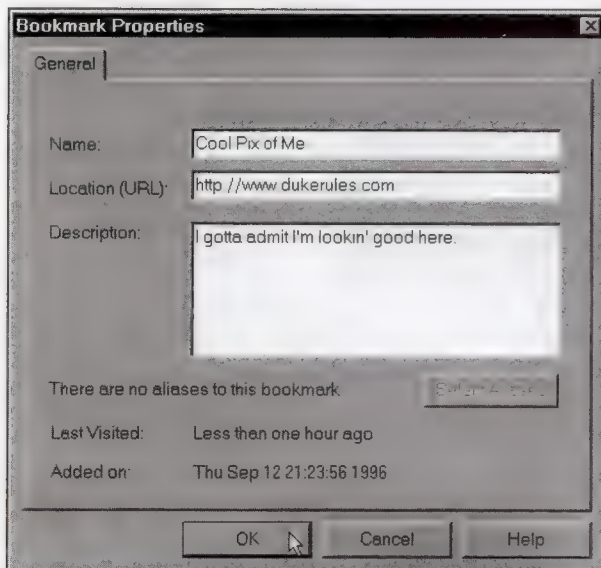
- ❶ To create a bookmark for the current page, choose Bookmarks ► Add Bookmark.
- ❷ To look through your list of bookmarks, choose Bookmarks ► Go to Bookmarks. Navigator will display your list of bookmarks in a Windows Explorer window (see Shot 4.2).

In the Bookmarks window, you can deal with a bunch of basic management tasks.



SHOT 4.2: You can edit yer list of bookmarks by choosing Bookmarks ► Go to Bookmarks and then working in the Bookmarks window that gets pulled onto yer screen.

- ☛ To kill a bookmark, right-click on it and choose Delete from the context menu.
- ☛ To add a bookmark, choose Item ► Insert Bookmark. Navigator will show the Bookmark Properties dialog box (see Shot 4.3). Change the



SHOT 4.3: To add a new bookmark, choose Item ► Insert Bookmark and toss the details into the Bookmark Properties dialog box.

name in the Name box to something yer gonna remember and throw a description into the Description box. Hit the OK button to close the dialog box.

- ☛ To edit the description for a bookmark, right-click on the bookmark and choose Properties from the context menu to pop up that Bookmark Properties dialog box again. Edit the description in the Description box, then hit the OK button to carve it into your computer's memory.

- ☛ To go to a site from the Bookmarks window, double-click on the bookmark or right-click on the bookmark and choose Goto.
- ☛ To find a bookmark by text in its description, choose Edit ► Find, enter the text in the Find What box in the Search Headers dialog box, and hit OK.

CHOOSING YOUR START PAGE

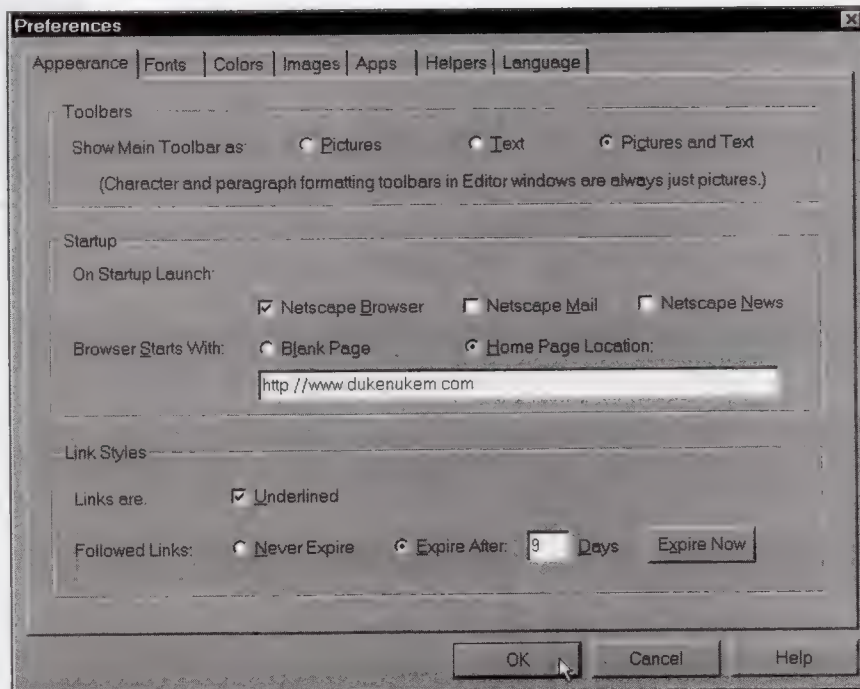
When you install it, Navigator just naturally wants to take you straight to <http://home.netscape.com>. You wanna start somewhere else, you gotta grab it by

the face and turn its head around. Here's how: Punch up Options ► General Preferences to get to the Preferences dialog box shown in Shot 4.4. Hit the Appearance tab if it's not already at the front of the dialog box.

See that Startup group box in the middle. Alright, make sure the Home Page Location option button is selected, then enter the start page you want in the text box and click the OK button. Next time you start Navigator up, it'll take you straight there.

DOWNLOADING FILES

To download a file, click on any link attached to the file. Navigator will ask you where to save it and what to call it. Once you've surrendered that info, it'll just go ahead and download it. Painless. Only time you need to even put your brain in gear is if you wanna play the file rather than download it. Read on.



SHOT 4.4: Set yourself a good start page on the Appearance tab of the Preferences dialog box.

SETTING APPLICATIONS TO PLAY FILES

Now that any self-respecting Web page has audio and video clips, not to mention a few Java applets and a scoop of Shockwave on the side, you need to tell Navigator how you wanna handle these fun files—you wanna run 'em with another program, or you wanna save them to disk? Navigator calls the other programs *helpers*, which is so nice and friendly it makes me wanna yack.

1. Choose Options ► General Preferences to display the Preferences dialog box.
2. Click on the Helpers tab to display it (see Shot 4.5).
3. In the big File Type list box, pick the type of file you want to change. Example: If you want to work with zip files, choose **application/x-zip-compressed**. Everything's got a real gripping description, but at least the Extensions list is recognizable.
4. In the Action area, choose what you want to do with the file:
 - **View in Browser** is available only for stuff Navigator can already handle. You usually don't want to change these file types.
 - **Save to Disk** automatically saves the file to your hard drive with whatever name it's been dragging around since birth.
 - **Unknown: Prompt User** pops up a dialog box asking you what the hell to do with the file.
 - **Launch the Application** fixes up an application to play the file for you. Select this option button, click the Browse button, choose the application in the Select an Appropriate Viewer dialog box, then click the Open button.
5. Now you can screw around with a few more file types or click the OK button to close the Preferences dialog box.

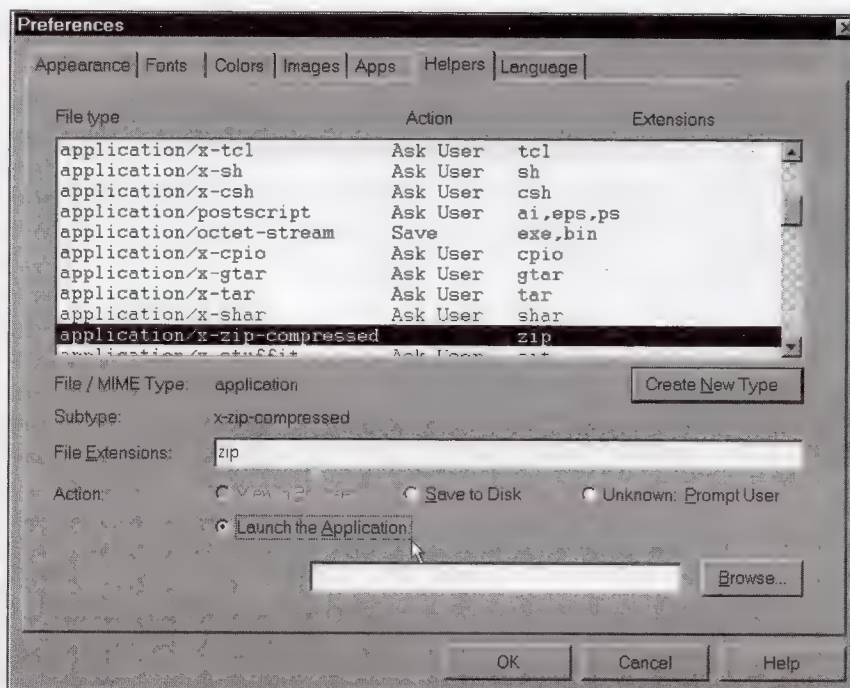


SHUTTING DOWN NAVIGATOR

Navigator's even easier to shut down than it is to crank up—click the close button on the Navigator window, or go to File ► Exit. If you've got a dial-up Internet connection, make sure you close it down so it doesn't rack up any more charges.

WHERE TO GET THE LATEST NAVIGATOR

You snagged this copy using FTP. What a drag. Good news is, now that you got Navigator hooked up, you can snag the latest beta or evaluation copy of Navigator by just pointing yer browser at <http://www.netscape.com> and following the online advertisements. If you want, you can also buy a full version of Navigator (including a year's support) from the Netscape General Store by clicking one of the Quick Purchase buttons you'll see scattered about the Netscape pages. (This is one of the few places



SHOT 4.5: Tell Navigator which helper programs you want to handle and what kinda files.

that you can pretty much trust with your credit-card information over the wire.) Unless you got money to burn, try a beta version or an evaluation version (look for a Try It button) to see how you like it before throwing your bucks on the bar. If you *really* got money to burn, go buy me a 6-pack.

To download a copy of Navigator from the Netscape Web site, look around for a button that talks about software, downloading, or betas. Netscape offers lots of different routes to the same place. You should get to a page titled Download Netscape Software. Here are the general steps to follow:



1. Select the product you want to download: Netscape Navigator.
2. Select the operating system you're using. Don't screw up on this one.
3. Select the language.
4. Click the Click to Display Download Sites button, then choose a site from the list. Most of the time, you'll want to pick a location on your own continent. But if you think yer patch of the globe is probably busy, pick a place where most folks will be in deep snooze. So if you're downloading at 4:00 in the morning in the continental USA, things should go just fine; but if it's 6:00 in the evening, time to plunder Australia instead.

FINDING AND INSTALLING INTERNET EXPLORER

Now that yer up and running with Navigator, I'm gonna show you how to grab the latest version of Internet Explorer, install it, and get it running. Like I said, Internet Explorer is a good weapon to have in your armory because it's got some features Navigator don't.

WHERE TO GET INTERNET EXPLORER

It starts with a real simple question: Where can you get a hold of Internet Explorer on the Web? You already know IE's from Microsoft, so all you have to do is figure out Microsoft's Web address. Most of these Web addresses (URLs) work the same way. Finding a URL means knowing 2 easy rules:

Rule 1: Sandwich the name between `http://www.` and `.com`, so you get something like `http://www.microsoft.com`.

Rule 2: If Rule 1 fails, look the address up. You'll master recon tactics in Level 6.

Load Navigator and point it at `http://www.microsoft.com`, the Microsoft Web site. Check out Shot 4.6. From here, it's another initiative test: Do you go for the Downloads shortcut, the Internet shortcut, the Best Experienced with Microsoft Internet Explorer button, the IE Challenge hyperlink, or what?

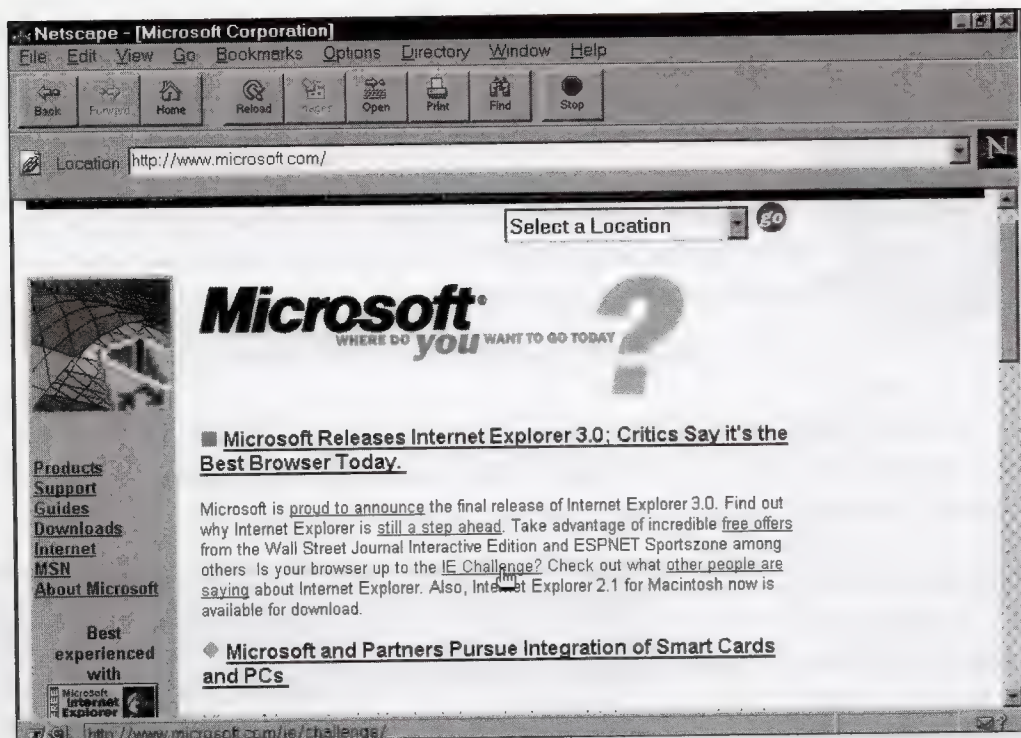
Answer: Any of the above, but the last two are worth trying first. Follow the onscreen prompts:

- ☛ Choose the language you want Internet Explorer to work in. Get cute at your own risk.
- ☛ Choose the location you want to download from. Follow the same download strategy I showed ya for Navigator.
- ☛ Download the file. Unless you got a nice hot digital connection, this will take a loooong time, even with that 28.8K modem we fixed up in Level 3. Be prepared to leave your machine for a while. This is the sorta fun that makes you wish timewarps worked.



DUKE SEZ

First up, we gotta make sure you've got an operating system IE'll agree with. Right now (Fall 1996), you can get Internet Explorer for Windows 95 and Windows NT—nothing else yet, though Santa Bill says he'll deliver versions for Windows 3.1 and the Mac right around Christmas time. The reindeer say he's been late before. If you can't wait, you need to stick with Navigator—it runs on most every operating system around.



SHOT 4.6: Figure out a way to get Internet Explorer from Microsoft's Web site.

- Install it. (If you use an earlier version of Internet Explorer to download a new version of Internet Explorer, it'll help you do this. Skip ahead to "Running Internet Explorer". Otherwise, follow through this section by the numbers.)

INSTALLING INTERNET EXPLORER

This is more of the easy stuff: Double-click on the file you downloaded from Microsoft's Web site. If you've been stupid enough to hide it somewhere you've already forgotten, use Start ► Find ► Files or Folders to search for a big mother of a file whose name starts with **msie** (enter **msie*. *** in the search field).

Next, you gotta agree to the Internet Explorer License Agreement, which pops up in a dialog box with an obnoxiously long scroll bar. This isn't entertaining, but you're supposed to read it. Here are the main points:

- ❖ Right now, yer allowed to use Internet Explorer with legal copies of Windows 95 or Windows NT. This'll expand once they make versions that run with something else.
- ❖ You're not allowed to give people copies of it. This is kinda weird, when you figure that it's free and Microsoft wants the whole world to be using Internet Explorer sometime in the next 20 minutes. You're also not allowed to reverse-engineer Internet Explorer—that means, you can't strip it down to its components and use them as rods in your Camaro. If you get pissed at Internet Explorer, you can delete it, no problem.
- ❖ There's a bunch of copyright shit.
- ❖ There's no guarantee that it'll work, and it's not Microsoft's fault if Internet Explorer destroys your computer, your house, or your mind. Lock up your data and back up your wife and children.
- ❖ If you want to read disclaimers in French, scroll to the end of the Internet Explorer License Agreement dialog box. Duke greets Quebec.



Agree to the above, and the Setup program will copy a bunch of files into a bunch of folders on your system. It'll hide many of them deep down in your \Windows\System\ folder. Don't worry, though—there's also an uninstall program that makes removing these files easier than pulling out buckshot, and much less painful.



KICK-ASS TIP

If you're tired of a dial-up networking connection that involves you grinding out your login name and password every time you connect, try the RoboDUN utility—Robotic Dial-Up Networking. You teach it your login name and password, and you're all set. Available from all good freeware sites. Chalk this up on your wish list for when we do recon in Level 6.



After it's finished making random changes to your hard drive, Internet Explorer Installation will ask if you want to restart your computer. Choose Yes. When Windows restarts, it'll update your system files, and then update your shortcuts.

Now you're armed and ready. *Groovy.*

RUNNING INTERNET EXPLORER

Internet Explorer uses the icon named The Internet that's almost impossible to remove from the Windows 95 or NT 4 desktop, so you shouldn't be able to miss it. Double-click it to start Internet Explorer.

Internet Explorer will crank up whatever it identifies as your basic Internet con-

nection. If this is a Dial-Up Networking connection, click the Connect button to get things started. If your dial-up connection involves you entering your login name and password, you'll need to go through that as usual. I'm assuming you can handle this stuff by now—we covered getting hooked up for the first time back in Level 3.



DUKE SEZ

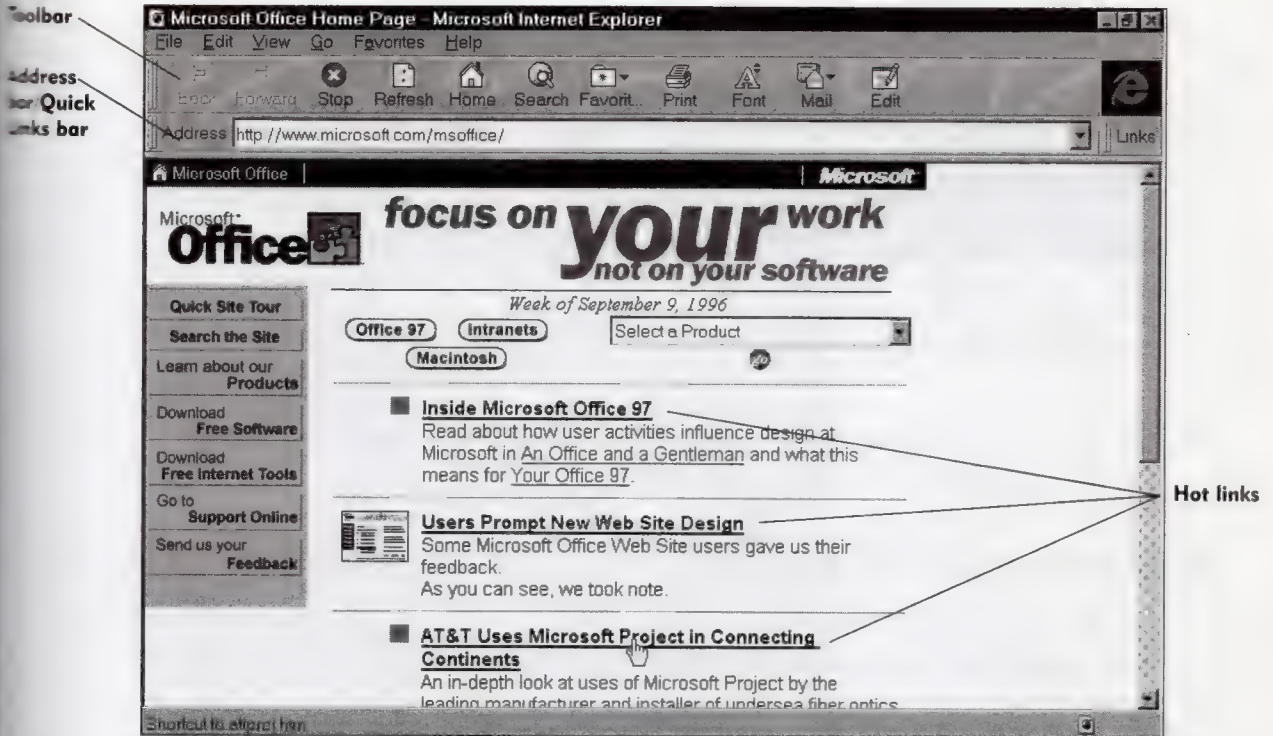
Coupla quick reminders here from earlier in the level: If a page freezes up before it's finished loading, hit the Stop button on the toolbar and then the Refresh button. Remember that one? OK, good. Second, a File Not Found error can mean either that the site you were after is dead, *resting*, or that you've mistyped the address. Check the address and try it again a couple times in case it's just asleep or traffic's heavy.

KICKING ASS WITH INTERNET EXPLORER

In this section, we'll skim through the basics of using Internet Explorer to get business done on the Net and the Web. I'm assuming you've read through the Navigator section above, so you should already have some idea how this works. Once you've installed and started Internet Explorer, you should see something like Shot 4.7.

CRUISING THE WEB

Cruising the Web with Internet Explorer is real easy once you've got it downloaded, installed, and up and running. Here's the one thing you need to know how—to go to



SHOT 4.7: Here's what you should see once you've got Internet Explorer 3 up and running.

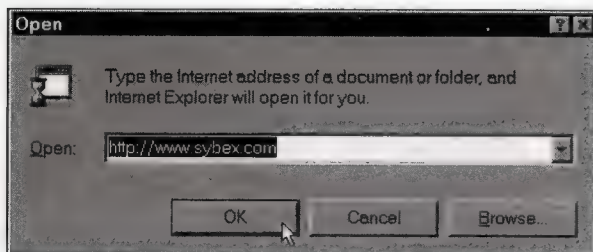
a Web site: Choose **File** ► **Open** to display the Open dialog box (see Shot 4.8). Enter the URL for the Web site in the text box, hit **OK**, and Internet Explorer should take you there. (You don't even have to bother with the Open dialog box—instead, just click in the Address box in the Address bar, type the URL, press **Enter**, and you're in motion.)



You can probably figure out what the buttons on the toolbar do on yer own, 'specially 'cuz Microsoft's been kind enough to label them.

CHOOSING YOUR START PAGE

Depending on which version of Internet Explorer you get, it's probably gonna be set to take you somewhere you don't wanna go, like <http://www.msn.com>. If you want to start



SHOT 4.8: In the Open dialog box, enter the URL for the Web site you wanna visit, or choose a URL you visited recently from the drop-down list.

out somewhere else, you'll have to shove IE in the right direction. To do this, get to the page you'd like to see whenever you go online. Then choose View ► Options to show the Options dialog box and punch the Navigation tab to bring it to the front (see Shot 4.9).

In the Page drop-down list, make sure Start Page is selected,

then click the Use Current button in the Customize group box. You'll see Internet Explorer list this in the Address box.

CHOOSING YER SEARCH PAGE

You can also use a different search page from the one that Internet Explorer starts with—the All-in-One page at <http://microsoft.com> that lets you search all the main search engines at once. To do this, go to the search engine you want—say <http://www.yahoo.com>, <http://www.lycos.com>, or <http://www.altavista.com>—then follow the instructions in the previous section. Just choose Search Page instead of Start Page in the Page drop-down list. (I'll break down your basic search options once you make it to Level 6.)

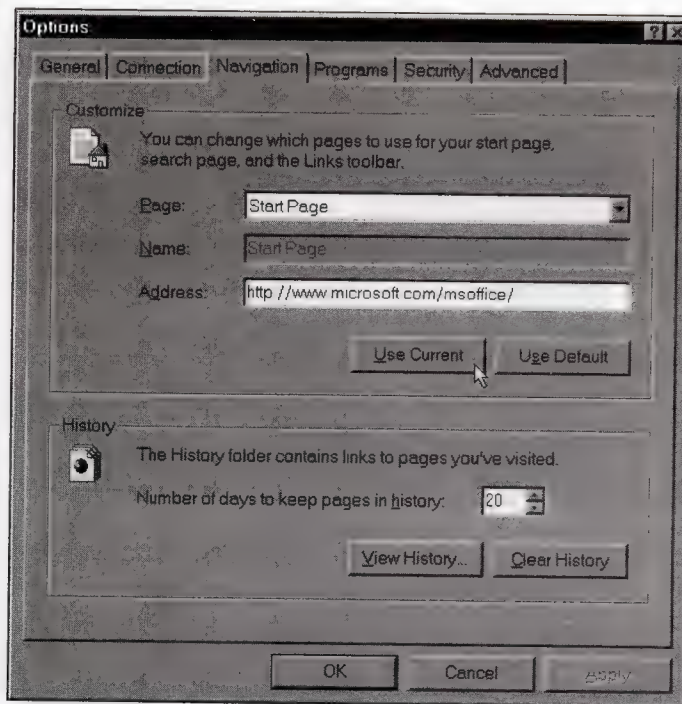
DOWNLOADING FILES

To download a file from Internet Explorer, just click on any link attached to a file.

Internet Explorer will check with you about where and under what name you wanna save it. Then it'll just go ahead and download the file. You don't need me to hold your hand through something as simple as this, but read the next

KICK-ASS TIP

To open an HTML file on your hard drive, instead of some URL off in cyberspace, click the Browse button in the Open dialog box to show the Open dialog box for files, then browse as normal for the file you want. To go back to a site you've visited recently, choose its URL from the Address drop-down list.



SHOT 4.9: Grab a good start page on the Navigation tab of the Options dialog box.

section to be clear when you want to download a file, and when you want your browser to play it instead.

ASSOCIATING MIME FILES WITH APPLICATIONS

You already know that Web browsers basically download a copy of everything that you ask them to show you or play to you. Big question is what *happens* to the copy you download. If it's a video file or a sound file, chances are you'd rather have Internet Explorer play it for you instead of saving it to a file and wasting a chunk of your hard drive. To get Internet Explorer to do the right thing, you gotta make sure it knows how you wanna treat different kinds of files.



DUKE SEZ

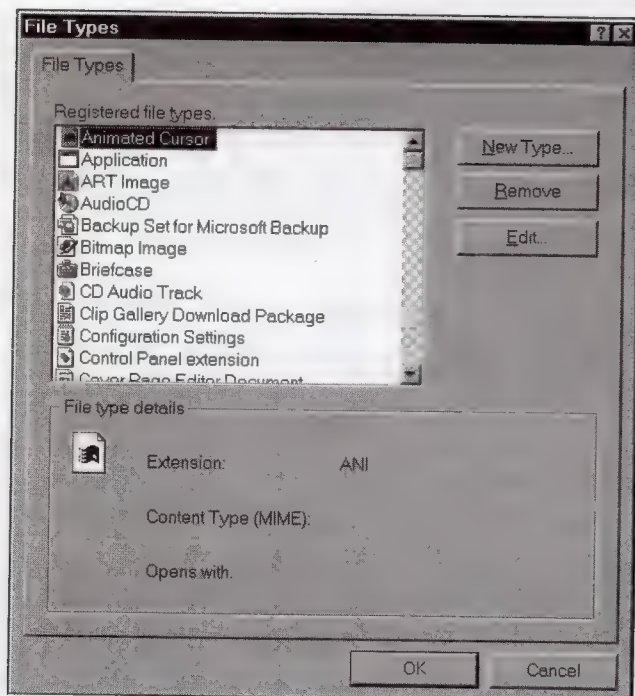
MIME stands for Multipurpose Internet Mail Extensions, not silent freakos in whiteface doing lameass street art.

It works the same way Windows handles regular local files. You've probably seen Notepad hop to it when you double-click on a file with the .TXT extension, or Word wake up when you double-click on a file with the .DOC extension. Same idea here. To have Internet Explorer automatically play sound clips and video at you when you click on links to them, it needs to know which application to use for which file extension.

When you install Internet Explorer, it's usually pretty good about figuring out which applications to use for most types of files, but when you start installing more applications to do the same kinda job—say, two or three audio players—things usually get screwed up real quick.

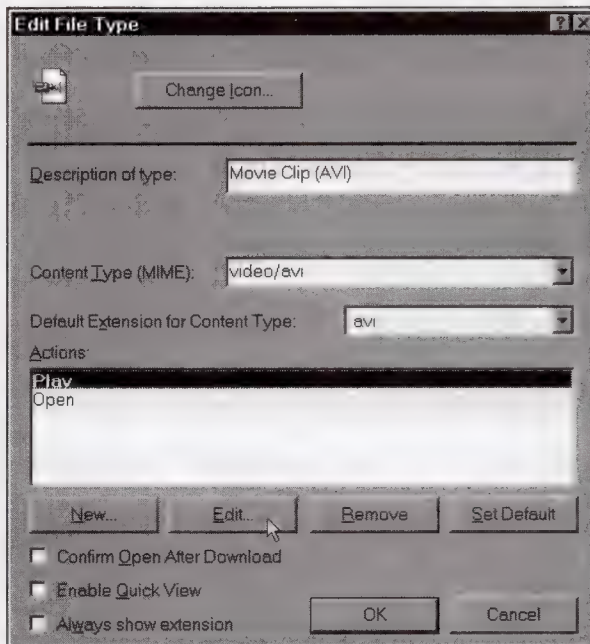
Here's how to set Internet Explorer straight:

1. Choose View ► Options to bring up the Options dialog box.
2. Click on the Programs tab to show it.
3. Hit the File Types button in the Viewers group box to display the File Types dialog box shown in Shot 4.10.

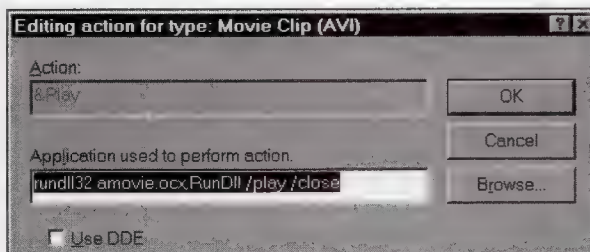


SHOT 4.10: Choose which files should run what when in the File Types dialog box.

4. In the Registered File Types list, select the file type to change, then click the Edit button to display the Edit File Type dialog box (see Shot 4.11).



SHOT 4.11: The Edit File Type dialog box



SHOT 4.12: The Editing Action for Type dialog box

You want a couple examples? Alright, you might select the Sound Clip (Basic) file type when you wanted to pick a player for audio files or the Movie Clip file type if you wanted to choose a player for AVI files.

5. In the Actions list box, choose an action, then click the Edit button to show the Editing Action for Type dialog box (see Shot 4.12).
6. Use the Browse button to open the Open With dialog box and choose the application you wanna use for this type of file. Click the Open button. The file name of the application will show up in the Application Used to Perform Action text box.
7. Add any switches needed. For an audio or video player, you may want switches like **/play** and **/close**. The file automatically starts up the player, which plays it and then closes itself.
8. Click the OK button to close the Editing Action for Type dialog box.

KICK-ASS TIP

You can also rename bookmarks to less offensive names, but don't think for a second that this'll fool anyone with a room-temperature I.Q.—all they need to do is check the properties for a bookmark to see what URL is associated with it, and they'll see *exactly* what kind of crap you're trying to traffic in. Check out the Bookmark Properties dialog box, and you'll see that Navigator also tracks when you last visited a particular site. Make sure this info doesn't fall into the wrong hands.

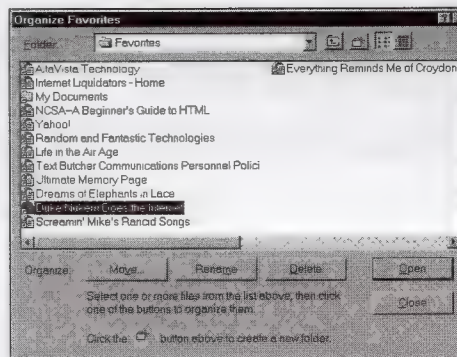
9. Click the Close button to close the Edit File Type dialog box.
10. In the File Types dialog box, change further file types, or click the Close button to close the dialog box. Then click the OK button to close the Options dialog box.

MAINTAINING A FAVORITES LIST

Like Navigator, Internet Explorer lets you keep track of Web sites you like, making it easy to go back and be a repeat offender. Navigator calls 'em *bookmarks*, as you saw earlier. Internet Explorer calls this sites *favorites*. Whatever.

Favorites are designed for the brain dead, so you should have no problem taking this feature on:

- ☛ To create a favorite from the site you're at, choose Favorites ► Add to Favorites.
- ☛ To go to a favorite, choose it from the drop-down list on the Favorites button or from the Favorites menu.
- ☛ To delete a favorite, choose Favorites ► Organize Favorites to open the Organize Favorites. Select your victim, hold down Shift, and hit the Delete button.

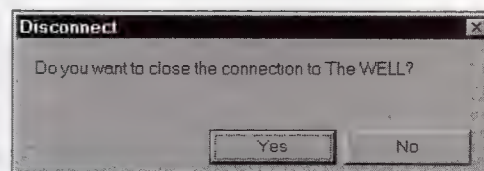


- To see a list of all yer favorites, open the Favorites window and feast your eyes.
- To check the properties of a favorite, right-click on it and choose Properties from the context menu.
- To rename a favorite, click on it once to select it, then click again after a sec to get a renaming box around its name. Edit the existing name or type in a new one, then click somewhere else to make the change stick.

Later on in this level I'll show ya how you can erase your Favorites list entirely to strike embarrassing sites from it in time for inspection.

SHUTTING DOWN INTERNET EXPLORER

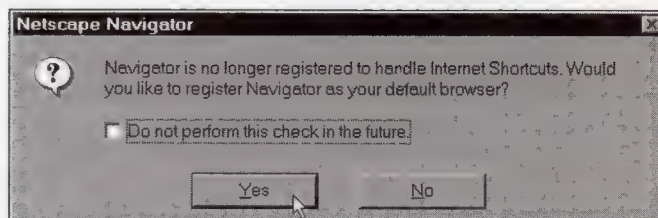
At the end of a Web session, shut down Internet Explorer by clicking the Close button on the Internet Explorer window or by choosing File ► Exit. If yer using a dial-up Internet connection, as Internet Explorer closes, it'll ask if you want to close the connection as well: Choose Yes or No. Main reason you might choose No is if you're in the mood to fire up another browser.



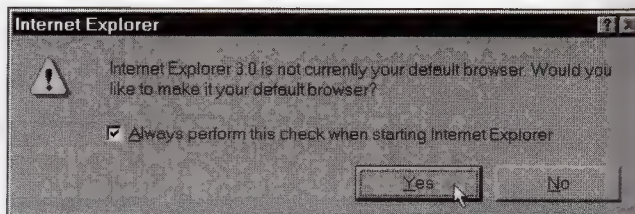
SETTING YOUR DEFAULT BROWSER

If you use both Navigator and Internet Explorer on the same computer, you'll probably make one of these your main weapon—the browser with the seriously kick-ass collection of bookmarks or favorites—and the other yer backup. Here's how to tell Windows which of these guys you've made top dog:

Run your fave browser. It'll show you a dialog box asking if you wanna make it your default browser. Choose Yes. You can quickly change back to



having the other browser be your default browser by shutting down whichever browser is running, starting the other browser, and choosing Yes again in this dialog box. Use the check box to stop the browser from performing this check when you start it and it finds you got a new weapon of choice.



CLEANING THE CRAP OUT OF YOUR BROWSER

At the end of a day in the trenches, you'll be glad to get offline, get back to barracks, and get cleaned up. Beyond personal hygiene, you gotta also clean the accumulated crud outta your browser and keep it well oiled and in good working condition.

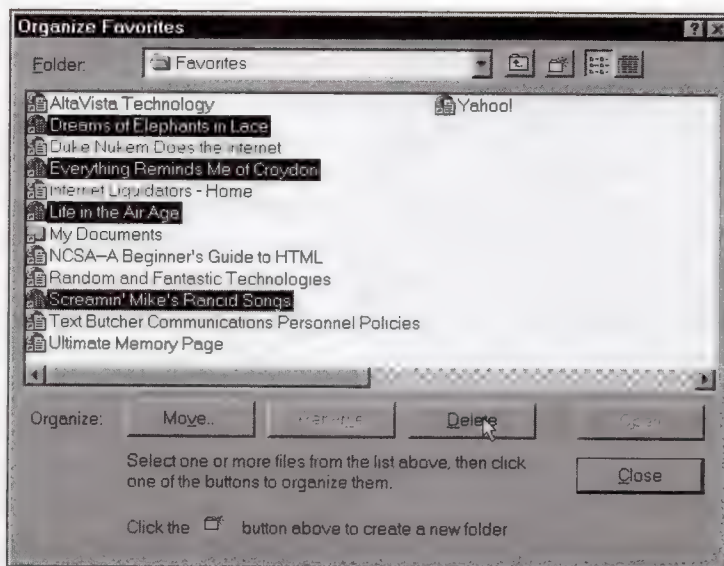
Pistol rounds and shotgun shells leave powder residue as you work 'em through your guns. RPG hits can leave bits of pig cop sticking to the outside of your weapon. Web pages leave piles of crap on your hard disk. To get your browser ready for inspection, you need to do 2 things:

- Clean out your list of bookmarks or Favorite Places.
- Clear out old files that are littering your hard drive. These may be embarrassing or harmless, but either way they're taking space that you gotta reclaim.

REMOVING FAVORITE PLACES FROM INTERNET EXPLORER

It's real easy to remove entries in your Internet Explorer Favorite Places list. Choose Favorites ► Organize Favorites to pop up the Organize Favorites dialog box shown in Shot 4.13.

Now you can hit the Delete button to send the shortcut to the Recycle Bin. Problem is, any rat can rummage through your Recycle Bin for left-over garbage. Make the smart



SHOT 4.13: Organizing your favorites can sometimes mean whacking them.

play—nuke the shortcut off the face of your hard disk by holding down Shift as you hit Delete.

CLEARING YOUR HISTORY FOLDER

The next thing you need to clean out is your history folder. You can do this from inside Internet Explorer by choosing View ► Options to display the Options dialog box, punching up the Navigation tab, and clicking the Clear History button in the History group box. While you're there, check the setting in the Number of Days to Keep Pages in History box. Make this match your browsing habits.

Once you've wiped the History folder, your past is a blank sheet.

KEEPING INTERNET EXPLORER LEAN AND MEAN

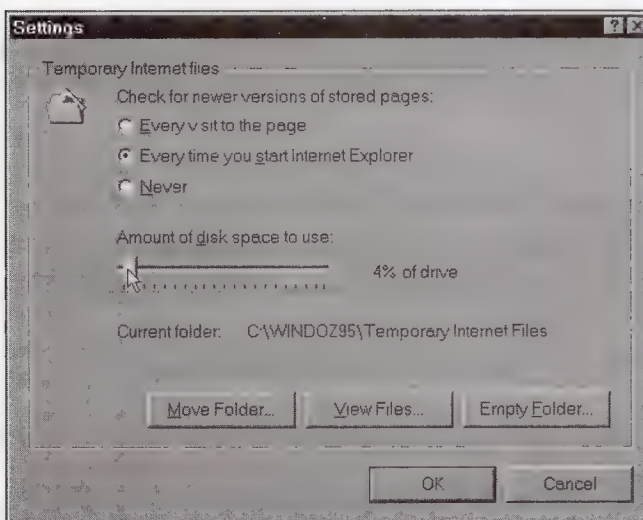
The other thing to do to keep Internet Explorer under control is to limit the amount of space on your hard disk that it can take for storing temporary files. These are the copies it keeps of the pages it downloads for yer viewing pleasure.

**KICK-ASS TIP**

You learned the value of temporarily turning off yer graphics back in the section on Navigator. To turn off display of graphics in Internet Explorer, choose View ► Options to display the Options dialog box. On the Appearance tab, clear the Show Pictures check box in the Page group box. While you're about it, you might also wanna clear the Play Sounds check box and the Show Animations check box, each of which might slow you down against your will. Hit the OK button to close the Options dialog box. To turn these options back on, select those check boxes again.

net Files group box. You'll see the Settings dialog box (see Shot 4.14). Check the Amount of Disk Space to Use setting, and adjust it as necessary.

Internet Explorer tends to set itself to a generous 10% of your disk space, so if you've



SHOT 4.14: Cut down on the amount of your hard drive that Internet Explorer can grab by changing the Amount of Disk Space to Use setting in the Settings dialog box.

Even if you don't need to ream your cache to protect your secrets, you'll want to stop Internet Explorer from clogging your hard disk with temporary files from areas you'll never care to revisit.

To check what Internet Explorer is grabbing, choose View ► Options and you'll get a look at the Options dialog box. Click the Advanced tab, then hit the Settings button in the Temporary Inter-

net Files group box. You'll see the Settings dialog box (see Shot 4.14). Check the Amount of Disk Space to Use setting, and adjust it as necessary. Internet Explorer tends to set itself to a generous 10% of your disk space, so if you've got a 1.6 gig drive, it'll pig out over 160 megs. Take a look at the size of your \Windows\Temporary Internet Files folder after you've been cruising for a while and you'll get an idea of how much space you should be devoting to storing copies of pages. (You'll definitely want to store *some* pages, so don't set this to 0%.)

You can also empty the folder by clicking the Empty This Folder button.

Punch your way out of the Settings dialog box by choosing OK, then get rid of the Options dialog box by clicking OK there too.

REMOVING BOOKMARKS FROM NAVIGATOR

Removing bookmarks from Navigator is easier than wiping yer ass. Choose Bookmarks

► Go to Bookmarks to display the Bookmarks window that you looked at earlier in this level. From there, you can easily waste any bookmarks by selecting them, then right-clicking and choosing Delete from the context menu. Use Edit ► Select All to round 'em all up.

WIPING THE CACHE FROM NAVIGATOR

Removing your bookmarks isn't enough to erase your tracks. To really clean up your act, you need to wipe the cache of information that Navigator maintains about what you've been doing. This is scorched-earth work; get used to it.

You gotta delete the cache folder's contents. If you're not sure where this is, run Navigator and choose Options ► Network Preferences to show the Preferences dialog box. Click the Cache tab if it isn't already displayed, then check the Disk Cache Directory setting to find out where it is. Now click the Clear Disk Cache Now button to purge this cache. While you're about it, click the Clear Memory Cache Now button to get rid of any crap in there too.



KICK-ASS TIP

True gear heads will wanna write what's called a batch file to nuke the contents of their cache folders. Batch files? Yeah—still a primo weapon in Windows 95. DOS ain't dead 'til ya see me dancing on its grave.

CREATING YOUR OWN WEB PAGES

Once you spend some time online, odds are you'll start thinking about grabbing a piece of the Web and calling it yer own. And like I told ya in Level 3, any ISP worth using

will give you space for your own Web site—usually they'll toss in FTP site capabilities as well.

We ain't got time to tear this one apart right now, but here's a quick look at what's involved:

- ❖ First up, make sure your ISP gives you the Web site included in your monthly fee. No dice? Get a new ISP.
- ❖ Second, find yourself a Web page editor so you can crank out some HTML pages. Yeah, you can use Notepad if you know what you're doing—or if you're doing real simple stuff—but there's a million better ways. Here's a few: Netscape makes Navigator Gold; Microsoft makes FrontPage, Adobe makes PageMill. All of these are point-and-puke simple to use. Microsoft also provides a bunch of Internet Assistants for the Office 95 applications—ya know, Word, Excel, all those—and the Office 97 applications can just save pages straight to HTML without any assistant getting in the way.
- ❖ Look at your page or pages in your browser. Add links. Rearrange stuff so they don't suck too bad. Have your friends check them out before you go live.
- ❖ Shovel your pages up onto your ISP's server. Your ISP will tell you how to do this.
- ❖ Crank up your favorite browser and roar on over to your spankin' new Web site. Pop a cold one.

ALRIGHT: GUN IT

Alright, punk, you made it all the way through browser boot camp. Feel free to celebrate by heading back to Level 1 and revisiting that midnight ride. This time you got the wheels. You got the keys. Take a little cruise. Have a little fun. But be sure to get yer ass back here in time for Level 5. Right now you know how to look. Next up, you learn how to talk.





LEVEL 5



The Flamethrower Is
Mightier than the Pen

Aright, shake out that crate and lessee what you got: Computer? Check. Modem? Check. Internet account? Check. Browser? Check. Not bad—you got the hardware, you got the software, and you're starting to get some skills. Now that you know how to cruise the Web, it's time to learn how to communicate with the other chumps you're gonna run into on the road. There're lots of different ways to handle this, but if you turn up the heat, the basics boil down to three things: e-mail, mailing lists, and Usenet newsgroups.

When it comes to world-wide communication, e-mail's the undisputed heavy-weight champ. Wanna rig a DukeMatch with a buddy in Belgium? Hammer out a quick message and you're on yer way. It's fast, it's furious, and it'll help build those finger muscles you need to unleash precise keyboard-driven assaults. Once you got e-mail down, check out mailing lists—kinda like e-mail on steroids—they help you give and get info with people who dig the same stuff you dig—kicking alien butt, saving the world, that sorta thing. Usenet newsgroups are the Internet's massive bulletin boards—another cool way to shout out and get answers fast. Looking for hot Web sites? Hungry for cheats? Wondering if some new piece of shareware is rockin' or weak? Chances are, someone out there has an opinion.

SECURE THE PERIMETER

'Course, like I've been telling you, the online world isn't just a fun place to hang out—it's also a rough neighborhood just waiting to kick your cyberhead in. Before you jump on the wire and start yapping with strangers, you gotta know how to watch your ass and make sure nobody rips you off. In this section, we'll look at three of the basic components of online self-defense: an unbreakable password, a good idea what *not* to send out online, and a healthy respect for the other people yer gonna find on the Net.



DUKE SEZ

This level covers the basics of e-mail and Usenet self-defense. You wanna know where the real sleaze is online, you gotta wait 'til Level 7.

A BAD PASSWORD AIN'T WORTH JACK

If you've already spent a little time on the wire, you may have noticed that you keep having to choose and use passwords. Wonder why? Simple: The only thing you've got to protect your online identity is a handful of text. Once someone's got that, they can pretend to be you. Wanna protect yourself? You gotta make that password count. Here it is for the record: A bad password ain't worth shit. And whaddaya know—most everyone out there has a password that's about as effective as a chaingun and no ammo.

First: 90 percent of the passwords in use are the same 100 words. Yeah, you heard that right. Most of 'em are five-letter words or shorter; we'll get to why this matters in just a sec. Thing is, all a hacker's gotta do is run that list of passwords against their target, and most of the time they're gonna sail right in. That's why you gotta make sure you put yourself in that other 10 percent.

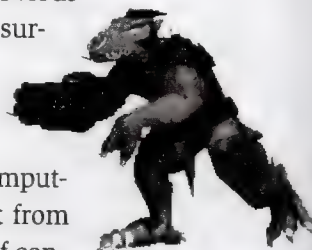
Second: Don't use a real word for your password. When I say "real word," I mean a word that shows up in the dictionary. Any hacker who's graduated beyond basic commands in DOS is gonna have a nice little program that'll run all the words in a big dictionary against your password. First match, and this jerk's into your stuff. Kiss it goodbye.

Third: You gotta make your password unique to you, something no one could guess, not even someone who knows you inside out like



yer steady babe. Name of your favorite band? No way. Some chick's name? No way. Your dog? Nah. Find a phrase that means somethin' special to you, then mangle it in a way that no one's ever gonna be able to guess. Couple hints on mangling are just a few lines away.

Fourth: You gotta remember your password. Yeah, that's so obvious Stevie Wonder could nail it with a rock at 20 paces, but you'd be surprised how many people manage to screw themselves up by forgetting their passwords. So—you figure you wanna write your password down so you don't lose it? Mistake, kid. Go into any office and you'll see sticky notes slapped on the sides of computers with all the passwords you'd need to case the joint. Take it from Duke: The only secure place for a password is inside that lump of concrete parked above yer neck.



You might run into an ISP that makes you choose a password that isn't a real word. They'll make you include at least one capital letter and one symbol (@, \$, #, &, whatever) to keep you in line. These guys know what they're doing. Even if your ISP doesn't make you do this, do it anyway. Take a phrase you like and strip it down to the consonants or the vowels. Substitute a symbol for a letter. Put in a number somewhere. There you go—you got yourself a password. Now carve it into yer brain.

Make sure your password's at least 6 characters long. Hell, why not just use the maximum number of characters allowed; 8's pretty standard, but sometimes you'll get up to 15. The shorter the password, the easier it is to crack—the more characters in the password, the harder it is to crack. (You ever seen a combination lock that opens with just one number?) Anything less than 5 characters long is real dangerous, even if it's got numbers or symbols in it. And don't use the same password for everything, no matter how great ya think it is.

GIVE 'EM YOUR NAME, RANK, AND SERIAL NUMBER, BUT NOT YOUR CREDIT CARD NUMBER

Yeah, there are plenty of ways to get ripped off online. Here are the two most basic things you gotta do if you want to hold onto what's yours:

First, don't send your credit card number (or any other info you wanna protect) in an e-mail message or a Usenet post. If it goes out on the wire, a hacker could reach out into the stream and grab it. Credit card numbers are especially easy to track from a distance 'cuz of the way they look—4 groups of 4 digits or 3 digits. You can bet your

ass that hackers have sniffer programs that pull interesting numbers out of the gigs of data that go sizzling over the Net.

Wanna bet more? An even more appealing target for the hacker is a database that contains your credit-card info along with 50,000 other people's. Yeah, you wanna limit distribution of your credit-card info as much as possible. Only time you're ever gonna be safe sending credit-card info online is if you've connected to a *secure* Web site. This means that the browser you're using and the server on the site can establish a secure connection using encryption, so nobody can mess with your data. Don't



ANGER ZONE

There are some things you never tell strangers—your age, your full name, your address. More on this when we get to Level 7 and a look at the seamy side.

know what this means? You better find out before you even think about taking a chance. Check with your ISP or scout out the Web site that belongs to your browser's company for more info. If you're still in doubt—then like that old guy sez: "just don't do it."

Second thing you gotta worry about here: What kind of outfit are you giving your credit-card information to? You can have a perfectly secure connection to the ElectroThieves from Hell Web site, but that don't make it a good idea to give 'em your number. And because the Web is still on the rugged side, a lot of times there's no way to be sure that the company yer dealing with is even the company it claims to be.

Look, you wouldn't give out your credit-card information over the phone to just anyone, right? Well, you gotta be at least 5 times more careful online.

FLAMING NETIQUETTE

Before we get down 'n dirty with how to send e-mail, we gotta talk for a sec about netiquette (short for *Net etiquette*, runt). Hey, don't fry your synapses—I'm not gonna get Miss Manners on yer ass, I just gotta make sure you know the score. See, this damn world's already loaded with assholes I just haven't gotten around to wasting. Don't want to have to add you to the list.

E-mail is just another way to communicate with other people. It can be formal, informal, anything in between. But remember, all the person on the receiving end of your messages is gonna see is the characters you type. They're not gonna



get a look at that shit-eating grin you had while you were tapping away. They're not gonna see your sorry imitation of my world-famous sneer. You gotta make sure that your messages say exactly what you want 'em to say—nothing more and nothing less. Murphy rules on the Net: Anything that *can* be misunderstood *will* be misunderstood.

You want numbers? Alright—you got 35 million people on the Net. Best bet sez several million of these clowns are jerks just waiting to bite your head off if you give 'em half a reason. Lots of others, well, their English is just fine for grokking most of what you write, but not always good enough to pick up on yer brilliant sarcasm. You send it as a joke, they receive it as an attack on their mother's good name.

Other thing is, reaction time on the Net is about as quick as in your average DukeMatch. Someone reads something that pisses them off, they can post to a Usenet newsgroup within seconds telling a chunk of the world that you're a conniving thief bastard just begging for fire. Tons of people can—and do—read this stuff. Gotta figure some are gonna flip.



Sending out written attacks on the Net is called *flaming*. These shots are called *flames*. You get enough of them in the air, you got yourself a *flame-war*. And of course the people who write flames are *flamers*, which some guys'll tell you is short for "flaming assholes." Whatever.

While we're drilling on netiquette, here's a couple more tips. First, I don't wanna see you using those overworked glyphs folks on AOL call "smileys"—shit like this:

: -)

Yeah, that's supposed to be a smile sideways. It's cute for the first coupla times you see it; after that, it's just another reason to nuke the sender. If you got something to say, say it so people can understand it. And if you can't write so that people can understand you, hell, stay away from e-mail and Usenet and leave it to us guys what talk real good.

Second, when you type a message in ALL CAPITALS, that's read as shouting. Don't do it—you'll look like a jerk. Save all caps for real short outbursts you just can't keep to yourself, like DUKE RULES!

Third, some people think that just 'cuz they send e-mail using the computer, without printing anything out, it don't really exist or maybe it's temporary. Wrong. Way wrong. E-mail *can* be saved and it *can* be printed—and even if you try to screw around with your messages so they look like they came from someone else, it's usually no big deal to track the trail and find out who sent what. The short version: You get blitzed and e-mail obscene messages to the White House for a goof, that's just as real as if you'd printed it out, signed it, and hand-delivered the message straight to the Prez. The payback's gonna be real, too.

YOU WANNA FLAME, BETTER BE READY FOR FIRE

Flamewars can be fun to watch for a couple minutes, but think real hard before you jump in and start adding to the fire. Some of the guys shooting flames are real badasses with years of practice at online arson. There's no real upside to blowing time on these goons, but there can be one helluva downside. As I'll show ya in Level 7, piss off the wrong guy and you can make yourself a target for e-mail bombs and other online hassles.



Sure, if you're human, once in a while you're gonna get the urge to flame someone. It's just like in traffic, when you want to drive that freakshow who just cut in front of you right off the damn road. Behind the wheel, you probably settle for yellin' at him, or giving him the finger. If someone pisses you off online, yell and scream all you want, but do it in private. Flip your screen the bird, if that makes you feel better. Then kill the message and forget about it. ('Course, if they think they've got what it takes, you could always try to sucker 'em into a friendly DukeMatch where you can take it out on 'em fast and furious. Level 9 and some practice should give you the skills you need to say it with pipe bombs.)

If you start up your own personal flamewar, you better reach for your flame-resistant shorts, 'cuz it's gonna get real hot right around where yer sitting. 'Til you try it, you wouldn't *believe* how quick these things get serious. And if you think about pulling anything real nasty, don't forget that yer ISP can yank the plug on you any time they want.

Even if yer trying to act nice, you could always start a flamewar by accident. Humor can be deadly when the person at the other end doesn't get the joke. (Same in spades if you just ain't funny.) You can put most of these wildfires out by shooting off another e-mail that just tells it straight, no comedy, no sarcasm.

BACKGROUND INTELLIGENCE: WHAT YOU NEED TO KNOW

So now you got some idea how to keep from getting your ticket punched. Think you're ready to get set up with e-mail and Usenet? Well, if you wanna complete this level, first you're gonna need to get your hands on a buncha info from your ISP. If they didn't give you this info when you signed up, give 'em a call and shake 'em down. You don't

have to understand what this stuff means right now—you just gotta have these facts on hand. I'll show you where to plug 'em in as you go along. Here's the list:

- ☢ Your ISP's phone number (yeah, you need this to be able to call 'em)
- ☢ Your username and password
- ☢ Your e-mail address
- ☢ Your e-mail account (sometimes different from your e-mail address)
- ☢ Your ISP's SMTP server (for outgoing mail)
- ☢ Your ISP's POP3 server (for incoming mail)
- ☢ Your ISP's news server (NNTP)

E-MAIL FOR THE ONLINE WARRIOR

Most of you punks have already heard about e-mail. Yeah, and many of you have already messed around with it at least a little. Either way, you probably knew the buzz on e-mail before you hit this level: instant communication with anyone who's got an e-mail address, no matter where they are on the planet, no matter what kind of computer they



DUKE SEZ

If your ISP gave you software that automatically set itself up and brewed you 15 gallons of ginger beer, you don't gotta slog through any setup details. Likewise, online services like CompuServe and America Online come with basic e-mail and Usenet already installed, so if you signed up with one of those guys, you won't need to bend your neurons about some of what goes on in this level. Hey, feel free to skim the sections that don't apply and target the stuff that does.

got cranking. So I ain't gonna waste your time telling you that e-mail is a good thing. Instead, I'll nail down what e-mail can do, and how you get it done.

Now you know I can't tell what e-mail program you're using. Could be Eudora, Pegasus Mail, QuickMail, or MS Exchange, just to reel off a few. Yeah, if you chose to sell your soul to some online service, they

may make you use their piece-of-shit mail program. Thing is, I don't really *care* what you've got running—most of 'em do the same damn stuff. You learn one, it won't take much sweat or blood to get skills with another real fast. Because I've already showed you how to score Navigator and Internet Explorer and set them up on your machine (back in Level 3), this section's specifics will target the mail programs that come with these two browsers—Navigator Mail and Internet Mail. If you're using something else, just follow along with this briefing and then use that big brain of yers to apply this stuff to whatever e-mail package crawled onto your desktop and sunk in its claws.

In this briefing, I'm gonna assume that you're just looking to cover e-mail basics—sending and receiving messages, organizing them, attaching files to them, you get the idea. We won't get into some of the more fancy stuff like teaching your e-mail program to tell people when you're away on vacation—hell, you won't even *get* a vacation 'til you graduate from the school of online war in Level 9.

One thing: you gotta make sure your e-mail program can handle. . . working offline. This means that you can write messages while you're not logged in, then check into the server at your convenience, send your outgoing messages and download whatever anyone's routed your way, then go offline to check it out. You'll probably wanna do as much offline as you can to keep charges down or keep yer phone line open.



KICK-ASS TIP

E-mail's one of the few areas where you're gonna need to choose one program and stick to it. Sure you can switch back and forth between more than one program—hell, switch every damn day if you like—but that'll scatter your messages all over the place and make it a serious pain in the ass to find any e-mail you've sent or received. That's why it pays to do a little recon and decide which weapon you like enough to use all the time.

HOW E-MAIL ADDRESSES WORK

One way e-mail is different from "old" mail is that you never hear about disgruntled e-mail workers "goin' postal." One way they're the same is that they both use targeting systems that start with you strapping a specific address on to each of your messages. You want your e-mail to end up in the right hands, first you gotta know how e-mail addresses work.

Most e-mail addresses run one of two ways:

`username@subdomain.domain`

`username@address.subdomain.domain`

Here's what ya get when you slice these guys apart:

- ⊕ `username` can be pretty much any combination of letters and numbers. Most sentient beings try to pick a username that's recognizable, pronounceable, mebbe even a little cool, like `dukenukem@dukenukem.com.`, but some ISPs will try to stick you with a lame-ass username like `puke4338@vomit.com`; resist at all costs, even if that means changing your ISP.
- ⊕ `address` (if there is one) can have a bunch of parts. A lot of times you'll see something like `duke@mail.nukem.edu` (that's for the Duke Nukem University of Online Warfare out here in L.A.), but you could also see something more complicated like `duke@mailgate%prg%ct.nukem.com`. Bottom line: If it works, don't worry about it.



DUKE SEZ

Two kinds of addresses you should know about before you start thinking something's wrong: CompuServe uses weird numbers for people's ID, like `76667.1331@compuserve.com`; MCI Mail uses a pseudo-phone number like `555-1212@mcimail.com`. Sure, CompuServe now (finally) lets people pick a username to attach to their user number, but most of the time, you'll still see the number show up as the main address. No big deal, just a little harder to remember. Here's a handy trick I use—mebbe it'll work for you: I spray paint important numbers I want to remember onto the bodies of my dead enemies. Then I prop 'em up around my room for easy access. It's practical *and* it's fun.

- ⊕ `subdomain` will often be the name of the ISP or the company whose network you're using. For example, if I used America Online, my address would be something like `dukenukem3@aol.com`; if I used the WELL—one of the coolest ISPs around—I'd probably be `dnukem@well.com`; and if I was at Sybex, I'd be `dnukem@sybex.com`.

Starting to get the idea, scrub?

- domain tells you the kinda domain the person hangs out at: com, org, edu, gov, mil, net, or maybe biz. See the sidebar on Domain Poisoning for the lowdown on what these mean.



KICK-ASS TIP

Most every e-mail program's got an address book built into it that you can use to store addresses you don't wanna have to memorize. By using an address book, you can also use a short and easy name like FragMan instead of the full address like `andrew.fragmentation@wintermute%neuromancer%pg13%mona-lisa.overdrive.com`.

Domain Poisoning

Here's how Internet domains break down:

- com stands for commercial and means the place is a business.
- org stands for non-profit organism—at least in theory. When you see some of the shit being tossed around by people with .org addresses, you gotta wonder about the state of the world.
- edu stands for education and means the address is a university. You'll run into .edu everywhere. Some of these folks are havin' a little too much fun.
- gov stands for government. Suit alert.
- mil stands for military. Heavy hardware.
- net stands for network. Kinda vague, huh?

Watch out for a new .biz domain type that's hitting the streets right around now. .biz domains are run by a different company than the other domains. Some of the Big Boys claim this'll screw with the way stuff is routed around the Internet. We'll see.

NETSCAPE MAIL

Time to look at how you can use Navigator as a comm device. Assuming you've already got Navigator installed, go ahead and fire it up so you can follow along with what I'm telling you. And if you still need it, drop back to Levels 3 and 4 and get outta my face.

SETTING UP NETSCAPE MAIL

Got half a brain? Yer probably looking at the little envelope icon down in the south-east corner of the Navigator window and figuring it has something to do with e-mail. Way to go, kid—but don't click on that icon just yet. First, you need to punch in a couple of settings.

Choosing Servers

Telling Navigator that you wanna use it to send e-mail is a snap. Here's what you gotta do:

First, choose Options ► Mail and News Preferences to open the Preferences dialog

box, then hit the Servers tab to display it. You'll see something that looks like Shot 5.1.

See that Outgoing Mail (SMTP) Server box? That's where you cram in the name of your ISP's SMTP server. SMTP stands for Simple Mail Transport Protocol, case you think you need to know. Don't worry about that *simple* part—SMTP does the job right.

Next, plug the name of the POP3 server into the Incoming Mail (POP3)



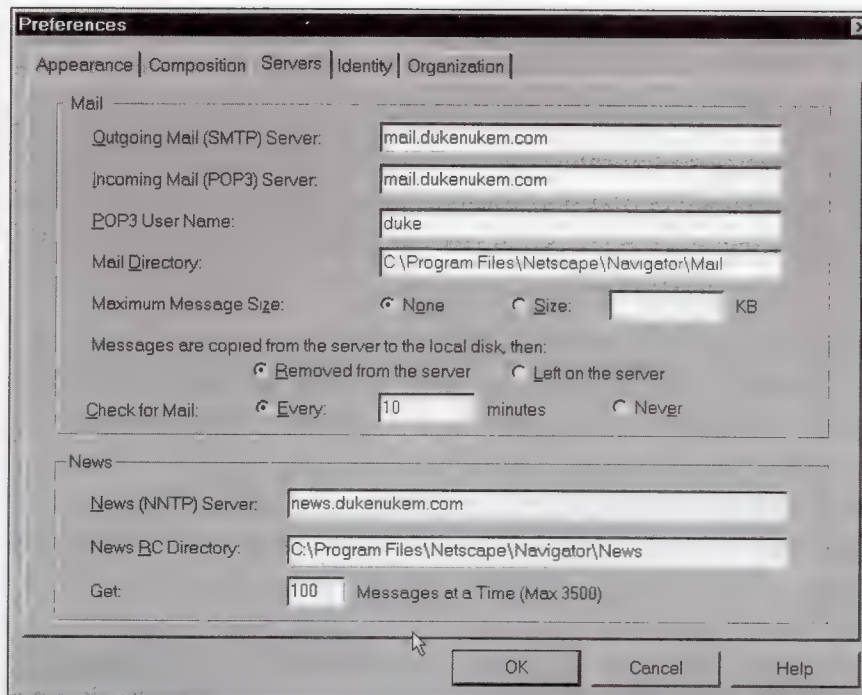
KICK-ASS TIP

If you don't know someone's address, or if they gave you an address that ain't workin', tell 'em to send you a message. Snag their address from their message, and you're ready to rock.



DUKE SEZ

Like I keep tellin' ya, these programs change 'bout as often as I blow away bastards with bad attitudes, so if what you're seeing looks different from what's shown here, deal with it. The basics are still gonna rule.



SHOT 5.1: Tell Navigator where to pick up and drop off your mail

Server box. POP here isn't the old guy drooling at the TV in the next room, it's Post Office Protocol—yeah, more of that protocol crap like TCP/IP back in Level 1.

Now, put the POP3 username in the POP3 User Name box. This username will usually be real close to your login name. For example, you might log in as `shithead@crapnet.com` and have a POP3 username of `shithead@mail.crapnet.com`.

Next, you got a bunch of options you can change if you want. Here's the quick rundown:

- Mail Directory:
This is where



DUKE SEZ

Don't have the names of your SMTP or POP3 servers on hand? They shoulda told you all this when you signed up. If you got stiffed, just grab that phone and give their tech support or customer service a call. When you write down these names, and yer password, get the capitalization right. Yeah, it matters.

Netscape Mail's gonna store your mail. Only change this one if you got a good reason to.

- ❖ **Maximum Message Size:** You can leave this set to None to get messages as big as they come, or you can select the Size option button and type a size in kilobytes in the box. You might wanna do this if some asshole keeps trying to e-mail you the Library of Congress. But don't set the size too low—even a friendly message setting up yer next firefigt can run a few K.
- ❖ **Messages Are Copied from the Server to the Local Disk, Then:** Man, the names on these dialog box options just get shorter and snappier. Leave the Removed from the Server option button selected unless you need to keep a copy of your mail on your ISP's server even after you've read it. (If you do this, watch the size of your mailbox, or you may find yourself coughing up the green for extra storage charges along with yer regular monthly wad of phlegm.) Main reason to choose Left on the Server here is if you need to access your mail from a bunch of different computers—say, you're at a university lab and you find yourself using a different computer on each visit, or if you're on the run and you left your laptop at yer chick's house. By keeping the messages on the server, you can get to 'em without carrying a computer around with you, but you won't be able to work offline.
- ❖ **Check for Mail:** When the Every option button is selected, the amount of time in the Minutes box sets how often Netscape Mail will go check for new mail while you're online. You can change this number—don't set it too short, or it'll mess with your surfing—or you can select the Never option button if you want to only check your mail when you're in the mood.



Virtual Identity Crisis

OK, we're through with the Servers tab. Punch up the Identity tab and get ready to tell the world who you are:

- ❖ **Enter your name or alias in the Your Name box.**

- ☛ Enter your e-mail name in the Your Email box and your reply-to address in the Reply-To Address box. Don't screw around with the reply-to address if you ever wanna hear back from anyone—it needs to be dead-on.
- ☛ You can enter any group you're proud you belong to in the Your Organization box. Yeah, I know. Some of these options are real lame.

Signature File

Just about done here. Last thing: You wanna use a signature file for your e-mail? A sig file's the text that gets dumped at the end of every message you send out.

You can put pretty much anything in a sig file depending on how twisted you feel. A lot of people include their name and some way to contact them other than e-mail. This could mean a Web address, could mean a mailing address (usually a real bad idea). Other people staple favorite quotes to their messages, recycle weak jokes from waaaay before you were born, or throw together pictures made entirely outta text. Whatever you use, make sure you want the world to see it. Think of e-mail more like a postcard than like a letter—no privacy. And if you send an e-mail to one person, better be prepared for them to pass it along.

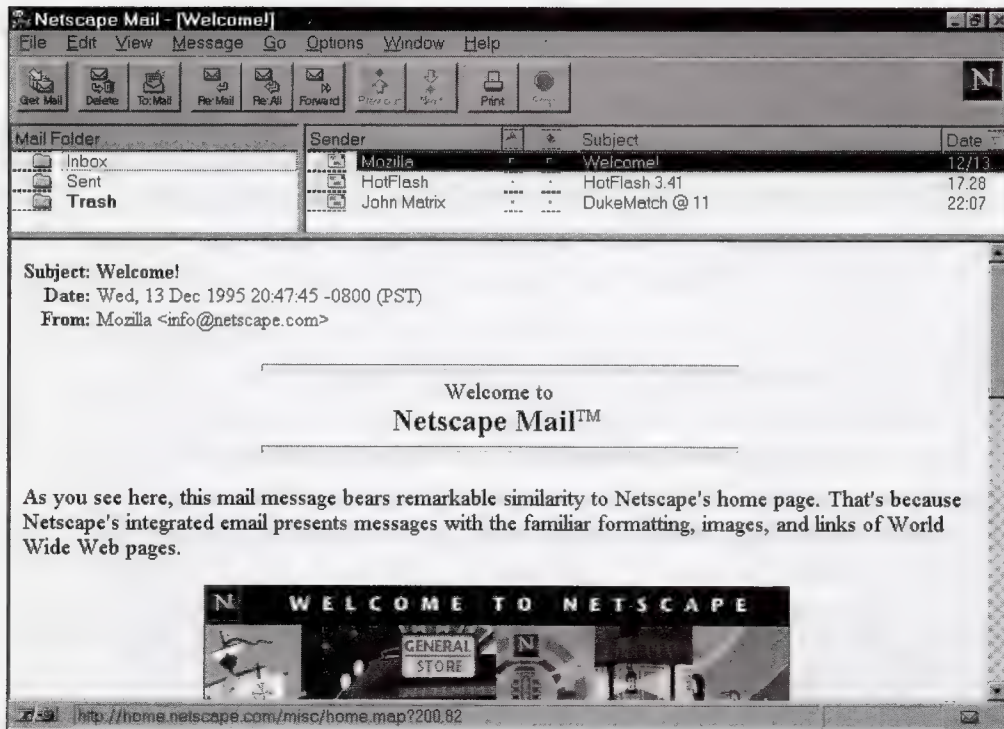
To use a sig file in Navigator, slap one together in whatever word processor you want and save it as a text file. Then tell Navigator where the sig file is by entering the location in the Signature File box. Hit the Browse button to pop up a Signature File dialog box, find your file, and click the Open button. Yer all set.

COMMUNICATING WITH NETSCAPE MAIL

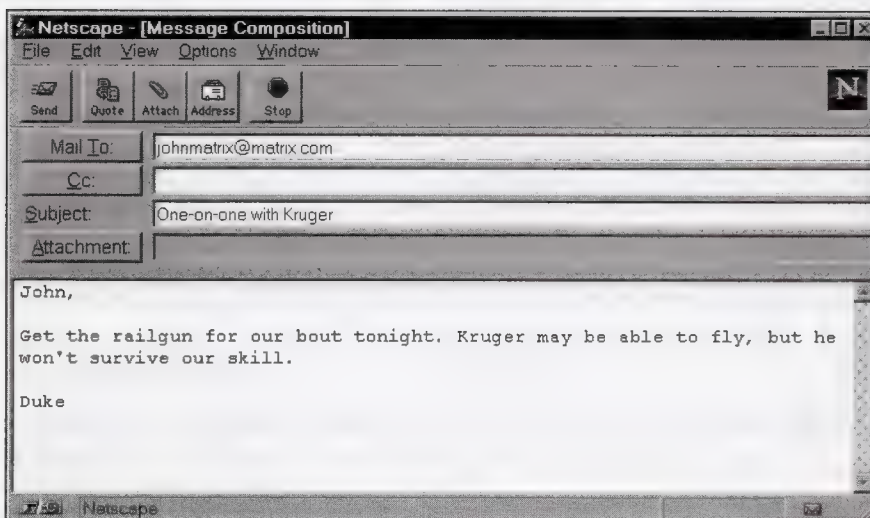
Now, run Netscape Mail. That mean's choosing Window ► Netscape Mail to crank up the Netscape Mail window (see Shot 5.2). Take a quick scan through the menus and the toolbars, then we'll get to it.

Sending E-Mail

Shooting out e-mail with Netscape Mail is as easy as pulling the trigger on your shotgun. Punch that To: Mail button on the toolbar and Netscape Mail shows a Message Composition window for you to work in (see Shot 5.3).



SHOT 5.2: Yer first look at the Netscape Mail window



SHOT 5.3: Business as usual in the Message Composition window

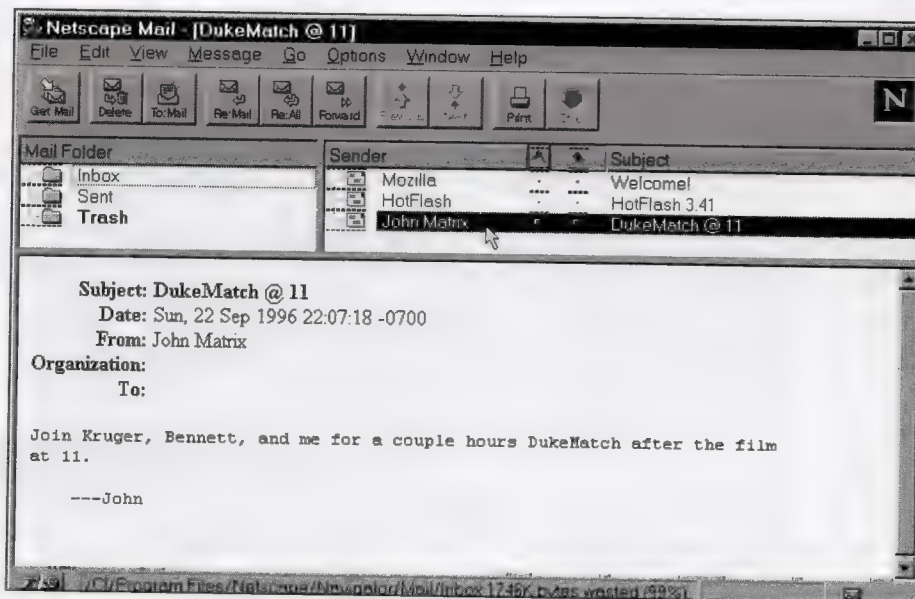
Think you can take it from here? Type an address straight in, or click on the Mail To button or the Cc button to open the Select Addresses dialog box, then choose your victims. (Yeah, if you ain't entered any addresses, you won't find any there. Choose Window ► Address Book to enter addresses in the address book.) If you want to include an attachment, click the Attachment button and choose the file or URL you want to send along by using the options in the Attachments dialog box. When you've written the message, click on the Send button to send it. Need a break before we go on or can you take a little more of this tough stuff?

Grabbing E-Mail

Easy. To get your mail, click the Get Mail button. Netscape Mail will ask for your POP3 password, then it'll haul ass, go get your mail, and dump it in your Inbox.

Reading E-Mail

No problem—just click on your Inbox to see a list of your mail. (If you've just installed Navigator, you'll find a Welcome message. Give it a look.) Click on a message header in the message listing pane to show the message in the reading pane in the lower part of the Netscape Mail window (see Shot 5.4).



SHOT 5.4: If you can read, you can handle reading e-mail

Toss a reply out to the sender of a message by clicking on the Reply button (the one with Re: Mail on it). Reply to the sender and anyone else who got the message by clicking on the Reply to All button (the one with Re: All on it). Forward the message by clicking on the Forward button (yeah, the one with Forward on it).

Organizing E-Mail

If you leave all your messages in your Inbox, it'll end up full of more crap than a pig cop's shithouse. Once you're done with a message, you'll probably wanna kill it or throw into a folder for storage.

Like most mail programs, Netscape Mail starts you off with an Inbox and a Sent folder. The names change, but the job they do stays the same. And like most mail programs, Netscape Mail lets you create extra mail folders to stow your mail in. To create a folder, choose File ► New Folder and enter a name for a folder in the Netscape User Prompt dialog box. The folder will appear in the Mail Folder list, and you'll be able to shove a message into it by clicking the message in the message listing pane and dragging it over to the folder. If your hand-to-eye coordination blows, you can also select the message in the message listing pane, choose Message ► Move, and select the destination folder from the Move submenu.

That's it—you got the fundamentals. Next up, check out how e-mail works with Internet Explorer.

INTERNET MAIL

OK, here's the lowdown on Internet Mail—yeah, the mail program that comes with Internet Explorer. Assuming you just read through the section on Netscape Mail, you're gonna have no problem with Internet Mail. To get it running, click the Mail button on the Internet Explorer toolbar and choose Read Mail from the context menu that Internet Explorer throws at you. First time you do this, Internet Explorer will toss the Internet Mail Configuration Wizard on yer screen. It's gonna walk you through setting Internet Mail up.

In the first dialog box, the Wizard tells you that it needs all that info that your ISP shoulda given you way back when. Dig it out and click the Next button when you're ready to rock.



In the second dialog box (see Shot 5.5), enter your name or alias in the Name box. Think this one through—you don't wanna enter a dork name like *Supreme Emperor of the Universe* unless you're prepared

to answer to it for the rest of time. Yeah, you can change the name later, but anything you e-mail or post with that lame name is gonna hound you for the rest of yer days.

Enter yer e-mail address in the Email Address box. Just like with Navigator, you gotta get this one exactly right. Hit the Next button.

In the third dialog box (see Shot 5.6), enter the names of the incoming and outgoing mail servers you're gonna be using. Make sure you enter 'em just like your ISP gave 'em to you. Don't screw around capitalizing letters for kicks—using the wrong case here can screw you up. Again, hit the Next button to keep moving. Now you should be seeing the fourth Internet Mail Configuration Wizard dialog box (see Shot 5.7). Enter the name of your e-mail account in the Email Account text box and then type your password into the Password text box. Make sure you read my briefing on bad passwords earlier in the level before you choose one—it's gotta be good, or yer security's gonna be compromised from the start.



DUKE SEZ

Some e-mail account names are different from that person's e-mail address—it depends on how the ISP has their system configured. Don't sweat it—just use the info they gave you.

Internet Mail Configuration

When you send email, your name will appear in the From field of the outgoing message. Enter your name as you would like it to appear (e.g. John Smith).

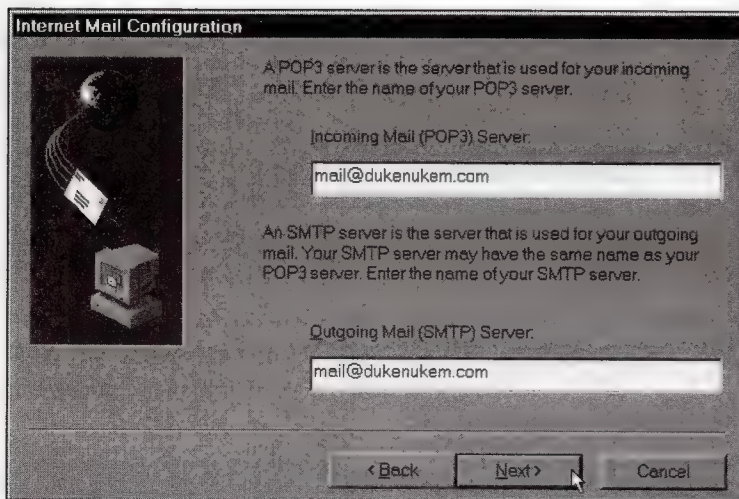
Name:

Your email address is the address other people use to send you email messages. It may consist of your POP3 account name, an "@" sign, and the domain name of your server. Enter your email address (e.g. j-smith@isp.com).

Email Address:

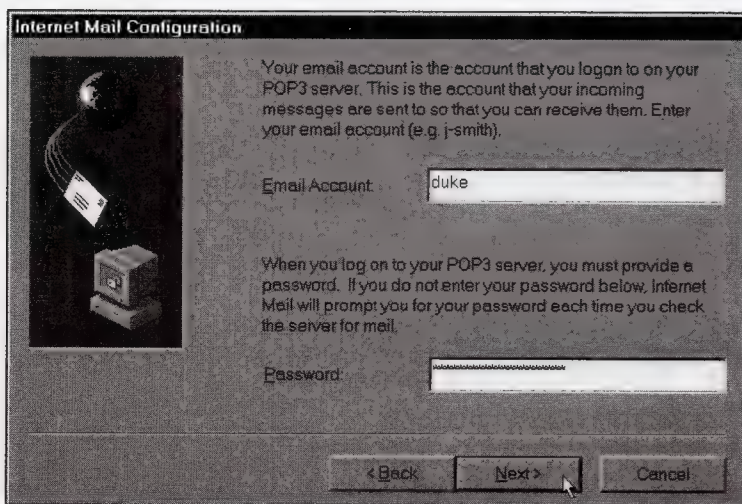
< Back Next > Cancel

SHOT 5.5: Enter your vital stats in the second Internet Mail Configuration Wizard dialog box.

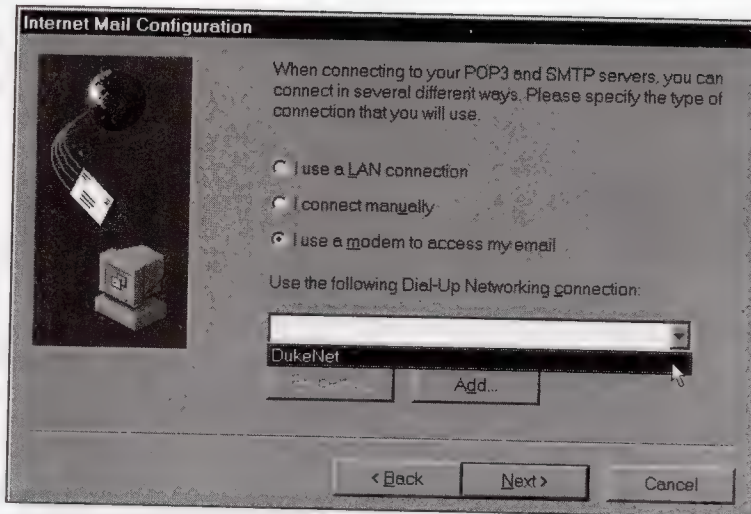


SHOT 5.6: In the third Internet Mail Configuration Wizard dialog box, enter the names of the mail servers your ISP told you you're gonna be using.

Hit the Next button to get the next Internet Mail Configuration Wizard dialog box (see Shot 5.8), where you pick how you're gonna access your e-mail. Depending on how you set yourself up back in Level 2, you're probably gonna want to hit the I Use a Modem to Access My Email button. When you snag this option, you can pick the



SHOT 5.7: In the fourth Internet Mail Configuration Wizard dialog box, tell the Wizard who you are.



SHOT 5.8: In this Internet Mail Configuration Wizard dialog box, tell Internet Mail how you're gonna access yer e-mail.

connection you'll be using from the Use the Following Dial-Up Networking Connection drop-down list.

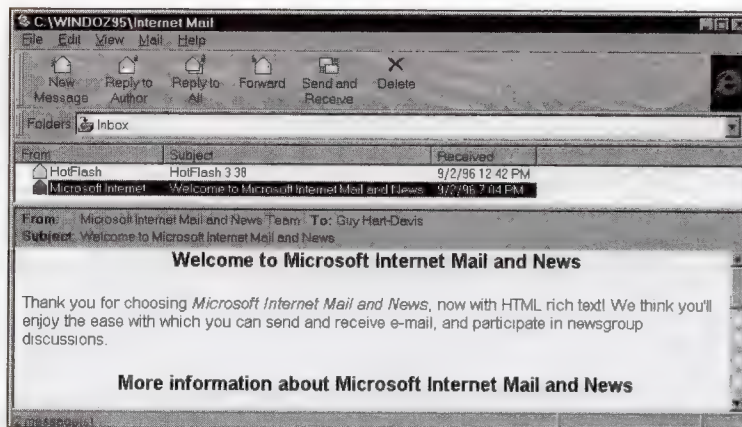
Hit the Next button once you've made your choices. You'll see the final Internet Mail Configuration Wizard dialog box. This tells you you're ready to rock. Click the Finish button, and you're all set. Internet Explorer will crank up the Mail window (see Shot 5.9). Take a look around and see if you like it.

CUSTOMIZING INTERNET MAIL

Before you go ahead and create any e-mail, make Internet Mail dance just how you like it. That means gunning it over to Mail ► Options to display the Options dialog box. This has all the info you entered using the Internet Mail Configuration Wizard, together with a bunch of other settings. We'll scout out the best of 'em right now.

Getting a Signature File

First, you probably wanna set up a signature file to go with yer vanity license plates. Here's what you do: Click on the Signature tab to bring it to the front of the Options dialog box. It should look something like Shot 5.10.



SHOT 5.9: Once yer configured, Internet Explorer cranks up the Mail window.

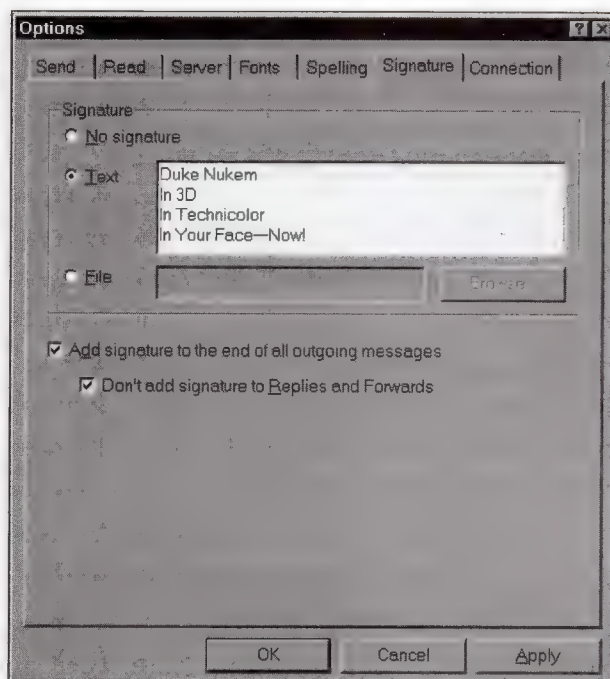
In the Signature group box, you can click the Text button if you want to use a text signature, then enter your sig in the box. If you wanna use an existing file as a signature, click the File button and either type in the name of the file you want or use the Browse button and the Open dialog box to ID it.

So far, so good. Now use the check boxes in the lower half of the Signature tab to tell Internet Mail when to use the sig—should it automatically throw that sig onto all outgoing messages, or not tack it onto your replies and forwarded messages? Sorry, punk—some things, you just gotta decide for yourself.

Settings for Outgoing Mail

OK, now check out the settings on the Send tab. Here are the main questions you gotta answer:

- You wanna keep a copy of each message you send?
- You wanna send messages right away? (Good if you got a permanent Internet connection or if you spend hours online while writing e-mail; less good if you write yer messages offline.)
- You wanna send messages as plain text or as HTML pages? (Plain text is your best bet here unless you know the recipient is gonna be able to read HTML pages—say, if they're using Internet Explorer.)



SHOT 5.10: First, you probably wanna set up a cool sig file. Knock yourself out.

Settings for Incoming Mail

Then there are a couple of settings for incoming mail on the Read tab that you need to deal with:

- ⊗ Internet Mail plays a sound when a message arrives. This gets old fast; you'll probably wanna turn this off before you end up putting a few rounds through your sound card and speakers.
- ⊗ Internet Mail can mark messages as read after you preview them for



DUKE SEZ

Yeah, there are lots more things you can pick on the Options dialog box's other tabs, like fonts on the Fonts tab, and stuff we've already been over on the Server and Connection tabs. You should be able to handle most of this stuff on your own by now.

a certain number of seconds. You may wanna mess around with this number to see what you like. Me, I turn it off altogether.

- ❁ If you're spending a lot of time online, you may want to set Internet Mail to check for messages every few minutes. Heads up: This also sends any outgoing messages you have ready, so make sure you don't dump any partly written messages in your Outbox if you have this option switched on. Your other option is to set it to check for mail manually, as I'm gonna show ya in a sec.
- ❁ Empty Messages from the 'Deleted Items' Folder on Exit is for people who wanna clear out their Deleted Items folder without thinkin' about it. If you're the kinda guy who throws stuff out and then turns the joint upside down trying to get it back, make sure this option is switched off.

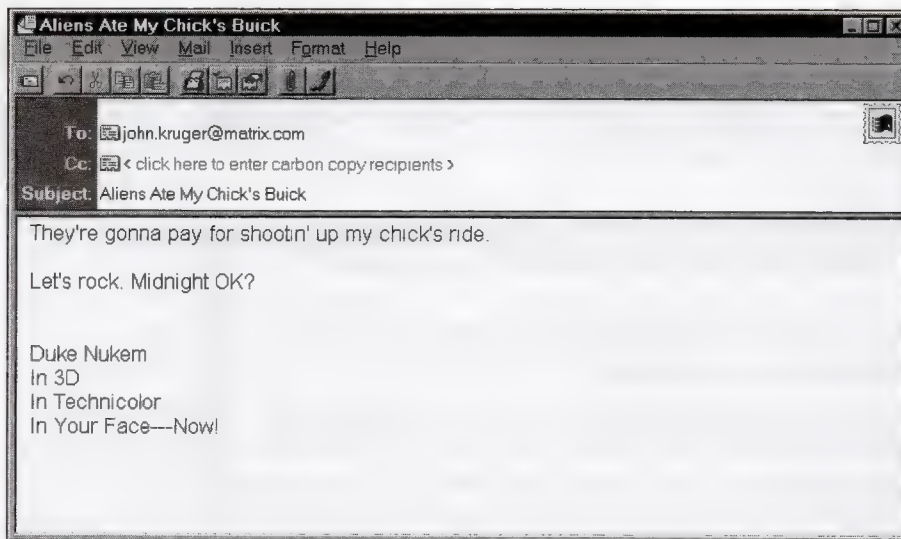
Sending E-Mail

No problem. Click on the New Message button and Internet Explorer opens up a New Message window you can work in (see Shot 5.11).

If you made it through the section on Netscape Mail, you should be able to figure out what to do here. You can type an e-mail address right into the To box, or you can hit the button to show the Select Addresses dialog box, where you can pick an address from any address books you've put together. Same goes for the Cc box if you wanna send a copy to anyone. Then you've got the Subject box for entering a subject for the message. Circle strafing is tough. This stuff ain't no challenge.

Next up—you ahead of me yet?—type yer text message in the main box. If you wanna fancy it up:

- ❁ You can attach a file by clicking the Insert File button on the toolbar, picking the file in the File Attachments dialog box, and hitting the Insert button.
- ❁ You can set the message's priority by choosing Mail ► Set Priority and then choosing High, Low, or Normal from the submenu. "DukeMatch Right Now?" would be an example of yer grade-A high priority message.



SHOT 5.11: Creating a message is one hell of a lot easier than 1-2-3.

- You can insert your current sig by punching the Signature button on the toolbar.

How do ya send the message? Just hit the damn Send button on the toolbar, runt.

Getting E-Mail

Like I said a few minutes back, you can set Internet Mail to go grab your mail automatically every few minutes. Or you can go get it for yerself by selecting Mail ► Send and Receive. Internet Mail will go talk to your mail servers, send anything you've got queued, and grab anything that's headed your way.

Reading E-Mail

To read e-mail, click on any of the messages in your Inbox. This will show the guts of the message in the lower pane. Hit the scroll bar to move through the message. You wanna see more than that, you can double-click the message to put the message into its own window (see Shot 5.12).

Shoot back a reply to whoever sent you the message by hitting the Reply button. Gun a reply off to the sender, and anyone else who got the message that you got, by



SHOT 5.12: Break out a separate message window if you wanna see more of a message.

hitting the Reply to All button. Forward the message by clicking the Forward button. Everything should be this easy. Just too damn bad they didn't throw in a frag 'n bag button while they were at it.

Organizing E-Mail

Once you're done with a message, toss it out of your Inbox by filing it or deleting it. If you wanna file a message, right-click on it in the Mail window, pick Move To from the context menu, and set the destination from the submenu. Internet Mail should have started you off with an Inbox folder, an Outbox folder, a Sent Items folder, and a Deleted Items folder; you want to keep your mail straight, yer gonna wanna add a ration of your own mail folders to these babies.

If you wanna make a new mail folder, pick File ► Folders ► Create. Once you see the Create New Folder dialog box, type a name in the Folder Name text box and punch the OK button. Once you've made yer new folder, it'll show up in the Move To submenu, so you can easily throw a message into it.

SOMETIMES YOU FEEL LIKE A SHOTGUN. SOMETIMES YOU DON'T.

Shotgun's got its place, but yer gonna find times when you need a ripper chaingun to get the job done right. Same thing with sending messages online—one-on-one e-mail's cool for communicating with people who've given you their e-mail addresses, but if yer looking for sprawling bullshit sessions with tons of people who like the same kinda stuff you like, you need a weapon that lets you pump out a wider spray of ammo. Internet's got lots of ways to get this done, but two of the best are mailing lists and newsgroups. Main difference here is that with mailing lists, messages are sent to the e-mail accounts of everyone who signed up to the list. (It's called *subscribing*—like to a magazine.) But with newsgroups, messages get sent to an open bulletin board that anyone on the Net can check out.

A CRASH COURSE IN MAILING LISTS

Most mail programs let you use their address book to make a list of people so you can quickly shoot a message to the whole crew by using just one name. Fine. But that ain't what I'm talkin' about here. This kinda mailing list is an e-mail address that you send a message to, and either a person or a program guns that message on to everyone who's subscribed to the list. Works the other way too—one of them sends a message to the list, it shows up in your mail box.



So like I said, some of these lists are run by people and some are run by programs. This makes a difference in how you subscribe or unsubscribe to 'em. Another thing ya gotta know: Some lists are *moderated*, which means that someone reads every damn post (message sent to the list) and decides if it's OK before they send it to everyone on the list; other lists are *unmoderated*, which means that whatever anyone sends to the list server gets posted to everyone. Make no mistake, moderated lists are censored lists, but they usually have a higher signal-to-noise ratio—more content, less crap. Unmoderated lists usually have a lower signal-to-noise ratio, but if anyone starts posting huge hunks of useless trash, self-appointed list vigilantes will try to stomp the source electronically and get 'em to pipe down.

FINDING MAILING LISTS

If you don't have any pals who know enough to be able to shove you toward some decent mailing lists, one good place to start looking is the list of Publicly Accessible Mailing Lists at <http://www.NeoSoft.com/internet/pam1>. Once you get there, hit the Index button, then the Names button to score a list of names or punch the Subjects button for a list of subjects.

Once you've found something you like, read on.

SUBSCRIBING TO A HUMAN-RUN LIST

To tell if the list is run by a human or a machine, check out where you're told to write if you want to sign up. If the list is human-run, the subscription address will look something like this:

`list-request@address`

All you gotta do is e-mail a request to that address. Put **subscribe** in the subject

line. In the body of your e-mail, name the list you want to subscribe to—the same person might be handling a bunch of lists—and be sure to throw in your e-mail address so they don't have to hunt through the message headers to find it. Say you wanna join the Doom 2 Editors club, you send an e-mail with all this info to `strider@dircon.co.uk`.



DANGER ZONE

Most lists set the reply-to address to the distribution address for the list; others set it to the address of the person who sent in the post you're reading. When you start to reply to a post, especially if yer new to a list, check the address it's going to and make sure it's right. Otherwise, you can screw up and send a private reply aimed at one person to the whole list instead, or you can blow it and waste a great post on just one person.

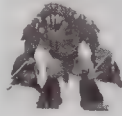
SUBSCRIBING TO A MACHINE-RUN LIST

If a list has a subscription address like `listserv@address` or `majordomo@address`, it's run by a machine—that makes it even easier than subscribing to a list run by flesh 'n blood. Just send an e-mail to the right address and put **subscribe** and the name of

the mailing list in the body of the message. For example, to subscribe to the Gamers mailing list, you'd put **subscribe gamers-I** in the body of the message together with your e-mail address. Don't matter what you put in the subject line, so leave it blank if you can. When the list computer gets your message, it automatically picks up your e-mail address, follows the command "subscribe" and throws you into the mix.

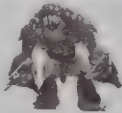
POSTING A MESSAGE TO A LIST

Once you've subscribed to a list, every message that anyone posts to it will get fired in yer direction. Eat it up. Most people "lurk" for a while and try to get a feel for the list's personality—no sense turning strangers into enemies by mouthing off on the wrong topic or bringing up a question that already got answered 2 days ago. When you think yer ready to start squawking, just slap the list address into the To box of your e-mail program—the list address, I said, *not* the address you used to subscribe—type what you gotta type, and send it.



DANGER ZONE

Some mailing lists shovel out a shitload of material every single day. First time you get a couple hundred messages jammed into your Inbox, you'll probably feel flattered by all the nice people who wanna tell you somethin'. Fiftieth time, you'll be ready to take names and kick ass. Two things you can do: One, find out if the list has a digest—a daily or weekly overview of all the messages, giving part of each or all of each, depending on taste, so that you can decide which ones interest you and then go grab the good stuff for yourself. Two, try not to bite off more than you can chew, or get ready for a lot of practice at unsubscribing. I'll show you how to unsubscribe before this section's through.



DANGER ZONE

Gotta play nice when you send a request to a human-run list—you piss 'em off, they shut the door.



DANGER ZONE

If yer signing up for a machine-run list, make sure you *don't* include a signature at the end of your message—it could confuse the list computer. You also gotta make sure you spell everything just right—computers dig precision.

UNSUBSCRIBING FROM MAILING LISTS

Sooner or later, yer gonna want to unsubscribe from a mailing list, either for a while—say you head off into the desert without your laptop—or forever—say yer no longer amused by the Ayrton Senna mailing list. No problem.



DANGER ZONE

Nothing screams, “Man, I’m an idiot,” like posting an unsubscribe message to a mailing list—look, you wanna unsubscribe, make sure you send your message to the list server and not to the list itself.



DUKE SEZ

Three things here on posting: First, keep it short. Second, keep it clear, so everyone can understand what yer trying to say. Third, if you wanna quote someone else’s post—say you’re answering a question or disagreeing with some jerk who can’t tell his ass from a puncture wound to the head—just quote the key stuff: Don’t stick the whole message in unless it’s real small.

To unsubscribe from a machine-run list, send an e-mail to the same address you used when you signed up. This message should look just the same, ’cept that instead of **subscribe** you write **unsubscribe**. Big surprise. The machine should drop you from that list quicker than I drop pipe bombs on protozoid slimers. Most times, it’ll also send you a message tellin’ you that you’ve checked out.

To unsubscribe from a human-run list, send a message to the subscription address, asking them real nice to unsubscribe you.

Again, tell ’em the list you wanna be unsubscribed from, and give ’em your e-mail address just in case.

NEWSGROUPS

Next up are newsgroups. Most of the newsgroups you can get to are part of Usenet or come through Usenet, and I’m gonna use Usenet as a general term here. Think of Usenet kinda like the Web—it’s another way to organize info on the Net. Instead of groovy Web pages, Usenet serves up electronic bulletin boards where people post info

for other people to see. Yeah, sounds a little like mailing lists, but unlike mailing lists, newsgroups don't come to you—you gotta go get 'em.

I can see yer lips moving, scrub, so I guess you're trying to work out why you should care and how all this works. No need for a nose bleed—quit straining and listen up. Two things to start: One, there are one hell of a lot of newsgroups to check out. Two, you don't have to subscribe to a newsgroup to see what it's got, so you can try a bunch of 'em and decide which ones are worth your time and which ones bite.

What kinda stuff are you gonna find out there? Well, like e-mail messages, newsgroup posts can be straight text; also like e-mail messages, they can have binary attachments. Plain English, that means they can get just about any kind of file attached to them. In a perfect world, they'd be used for sharing exciting new ways to save the planet, or at least to wipe out alien scum. But in this world, most of the binary files you can get at through newsgroups are porn pix of different degrees of roughness and competence.

There are now about 16,000 newsgroups that cover just about every slice of human (and semi-human) taste and morality. At least a gigabyte of info is pumped through Usenet every day. You might figure that somewhere in all that junk, there's gotta be something good. Well, you'd be right. Only thing is, you may have to slap on yer hip boots and wade through pools of toxic slime if you want to get to the gold.

USENET BASICS

Usenet newsgroups are broken down into a bunch of what geeks call *hierarchies*. These hierarchies then get broken down into specific topics. Here are the main hierarchies yer gonna find:

HIERARCHY	WHAT IT IS
alt	alternative—the weirdest mix of topics around, from alt.agriculture.fruit to alt.aol-sucks
bionet	biology—all the way from molecular to software
bitnet	newsgroups on the Bitnet network
biz	business topics—mostly advertising
comp	computers—a good place to beg for help on technical questions
gnu	the Gnu's Not Unix software project
misc	miscellaneous—goes all the way from want ads to survivalism

HIERARCHY	WHAT IT IS
news	news, like it says; also includes useful info on software and tons of stuff aimed at new users
rec	recreation—from TV to beer-brewin'
sci	science
soc	social—social studies, from atheism to the theoretical culture of Belgium; also people just being social with each other
talk	talk—debates, idea slug-matches; topics go from Tin Tin to Tibet
k12	education
various local newsgroups	'nuff said

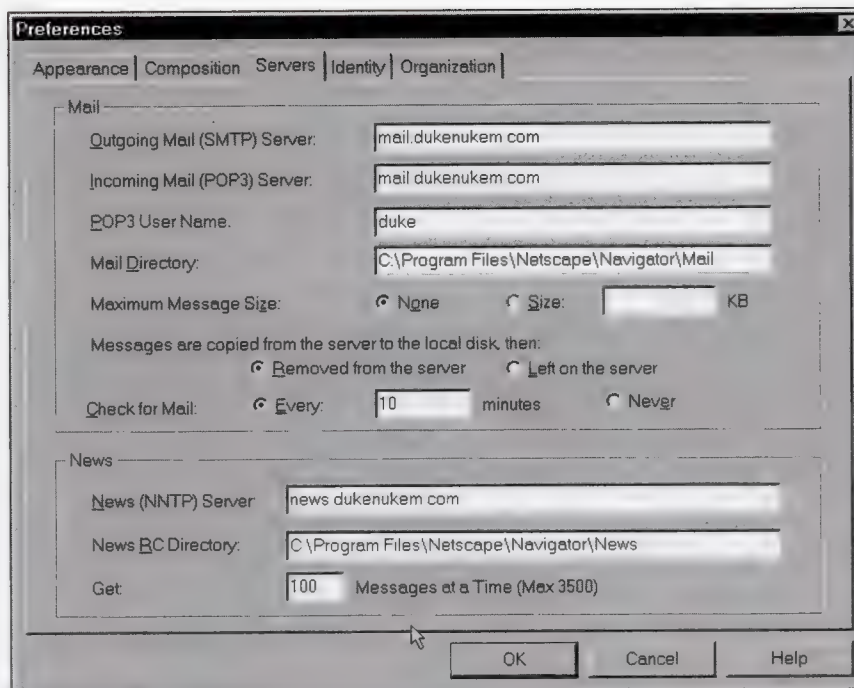
Depending on how much storage your ISP has and whether they think you should see all the grubbier areas of Usenet, they may let you tap into a full newsfeed or only a partial one. Like I've been sayin', Level 7 gives you the lowdown on some of the seamier stuff you should stay clear of.

Before you can read newsgroups, you need to set up yer newsreader. Just like with e-mail, there are tons of programs out there, an' I ain't gonna bother bustin' down your door at night just to find out which hunk of crap you've got runnin'. Most of 'em do the same damn stuff anyway, so I'm gonna focus on Netscape News and Internet News—the newsreaders that come built into Navigator and Internet Explorer. Even if you gotta use something else—maybe you're using an online service that makes you use some half-assed newsreader their geeks built outta chewing gum and matchsticks—you should still give this section a scan to cover the basics and learn how the other half lives.

NETSCAPE NEWS

To set up Netscape News, run Navigator and choose Options ► Mail and News Preferences. That'll put the Preferences dialog box on your screen. Should look familiar—it's the same dialog box you used to set up Netscape Mail. OK, here it is again (Shot 5.13). On the Servers tab, plug the name of your ISP's news server into the News (NNTP) Server text box. Yeah, yer ISP shoulda given you that when you signed up.

Couple more things you can do while you're here. First, see that News RC Directory box? That's where Netscape News is gonna store your news info. If yer real anal 'bout how you set up your hard drive, you might wanna change this. Or could be you just



SHOT 5.13: Tell Netscape News where to find all the news that fits.

wanna note this location so you can clear out its contents when you want to toss private stuff in the trash.

Second, you can change the number in the Get box to have Netscape News get more or fewer messages at a time. You'll probably want to adjust this number when you get a feel for the newsgroups you're reading regularly. Choose to get too many messages at once over a slow connection, and you'll be watchin' the hourglass and twiddlin' yer thumbs. Choose to get too few, and you won't have a decent quantity of posts to read.

Hit the OK button when you're done. Alright, now choose Window ► Netscape News to jump to the newsreader.

Netscape News starts you off with a few newsgroups from the news server you picked in that Preferences dialog box. First thing you wanna do is expand the view so that you see all the newsgroups you already got. This means double-clicking the name of the news server so that it explodes into a list that shows something like `news.announce.newusers`, `news.newusers.questions`, and `news.answers`.

Then right-click the news server again and choose Show All Newsgroups from the context menu. First time you do this, Netscape News will take a couple minutes to

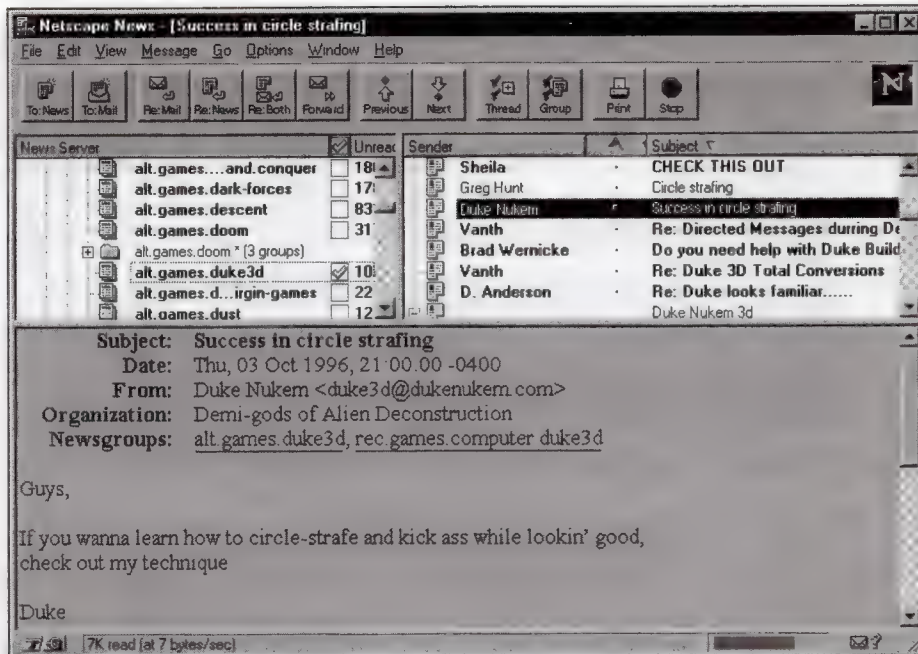
download the list of all the newsgroups from the news server. After that, you'll have the list on your hard drive. Even though there are little changes just about every day (new newsgroups start up, old ones die), you'll be able to pop the list up in no time. Now you're rockin' (see Shot 5.14). Here's how to get around:



KICK-ASS TIP

Remember what I told you about "lurking" on new mail lists before you start shouting out? Same goes for newsgroups. Only difference—newsgroups are even more public. Think hard before you post. And scout around for a FAQ (a file that covers frequently asked question) before you shoot out any dumb questions that 250 other people posted before you.

- ❁ To expand the hierarchy of newsgroups, click a plus sign to the left of a folder icon.
- ❁ To subscribe to a newsgroup, right-click its name and choose Subscribe from the context menu. To unsubscribe to a subscribed newsgroup, right-click its name and choose Unsubscribe from the context menu. No big deal.
- ❁ To download the messages in a newsgroup, right-click its name and choose either Get More Messages or Get All Messages from the context menu.
- ❁ To read a message, click it in the upper-right pane. Netscape News will show the contents of the message in the lower pane.
- ❁ To go to another newsgroup, click it in the upper-left pane. (Scroll as necessary to reach it.)
- ❁ To reply to a post, click the Reply button (the one with Re: Mail on it).
- ❁ To post a reply to a message, click the Post Reply button (the one with Re: News on it).
- ❁ To post a reply to a message *and* reply to the poster, click the Post and Reply button (the one with Re: Both on it).



SHOT 5.14: Reading news in the Netscape News window. Drag the separator bars if you wanna see more.

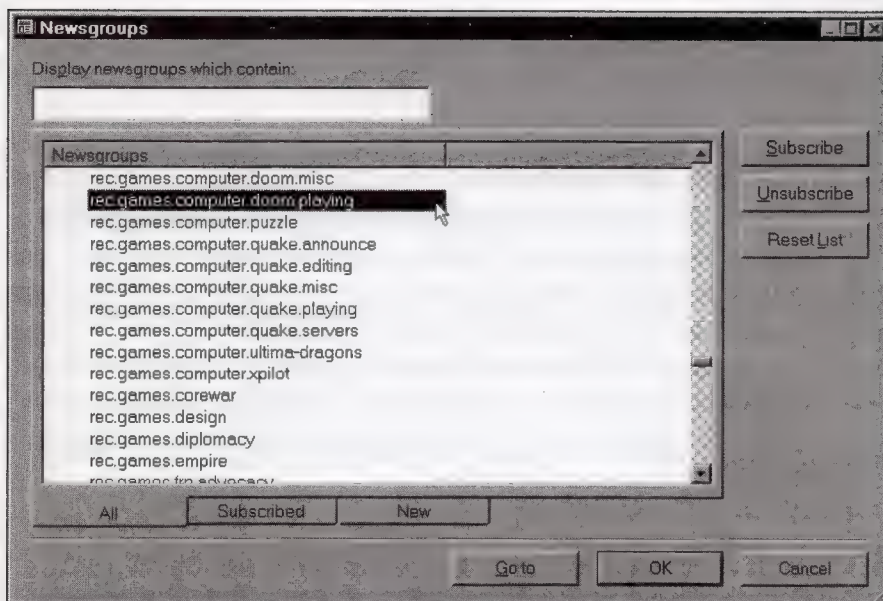
INTERNET NEWS

To set up Internet News, open up Internet Explorer. Click on the Mail button on the toolbar and choose Read News from the drop-down list. The first time you do this, Internet News is gonna ask you for the name of the news server you'll be using. One last time, you gotta get this info from yer ISP. Enter the news server name and click the OK button to continue. Internet News then downloads the whole list of newsgroups you can get to through your ISP. Go get a brew while it does this—it'll take a couple minutes, even if you got that 28.8K modem I told you to pick up back in Level 3.

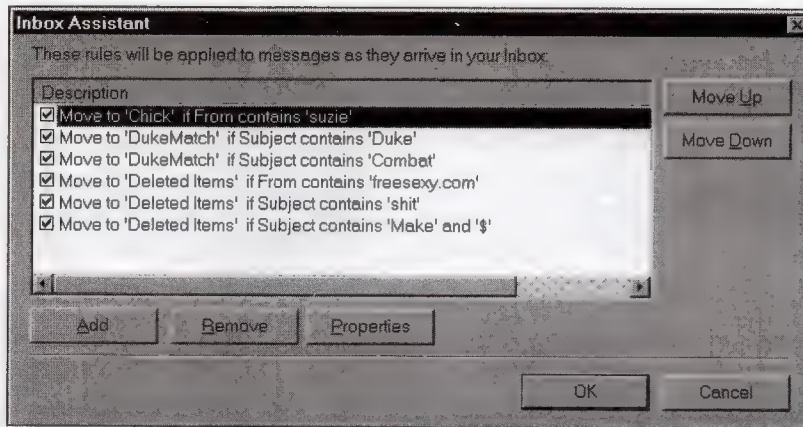
Once it's done downloading the list of newsgroups, Internet News will cough up the Newsgroups dialog box (see Shot 5.15). You can get to this dialog box at any time by hitting the Newsgroups button on the toolbar.

- ☛ To subscribe to a newsgroup, pick its name in the list and punch the Subscribe button; to unsubscribe to a newsgroup, click the Unsubscribe button.

- ☢ To update the list of newsgroups, hit the Reset List button.
- ☢ To go to a newsgroup, pick its name and click the Go To button. Internet News will download the first chunk of headers (like a subject line on an e-mail) and will show the message headers in the top part of the window. To read a message in the lower part of the window, click it; to read a message in a separate window, double-click it. Either way, Internet News will download the message and throw it on yer screen (see Shot 5.16).
- ☢ To go to another newsgroup, hit the Newsgroups button and select it from the Newsgroups dialog box.
- ☢ To go to a newsgroup you've been in before, pick it from the Newsgroups drop-down list.
- ☢ To post a reply to a message, click the Reply to Group button and start typing into the window that pops up.
- ☢ To shoot a reply straight at the author of a post, punch the Reply to Author button.



SHOT 5.15: In the Newsgroups dialog box, you can subscribe to a newsgroup or just go straight to it.



SHOT 5.16: Use the Inbox Assistant to gun down mail you don't want to see.

STOPPING THE JUNK MAIL MEANS KILLING THE MAILMAN

If you find yourself getting junk mail or flames, you'll want to check out if yer mail program has any mail filtering options. As I'm writing this, Internet Mail offers filtering and Netscape Mail doesn't—but there's no way Netscape Mail is gonna fall behind, so keep yer eyes peeled.

Here's how to use mail filtering in Internet Mail. First, choose Mail ► Inbox Assistant to see the Inbox Assistant dialog box (see Shot 5.16).

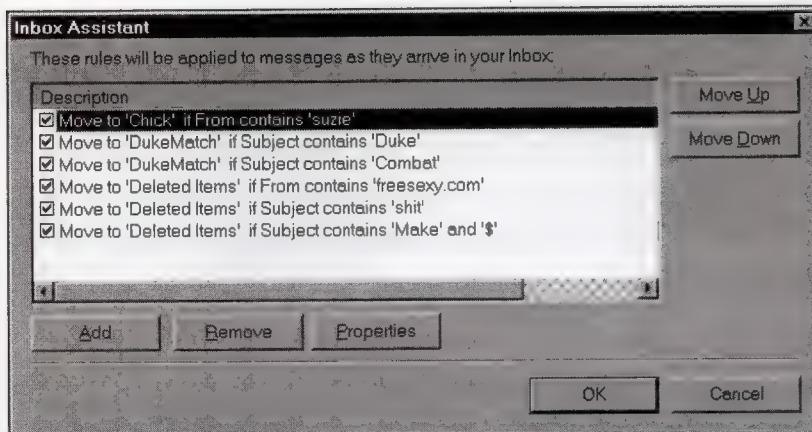
Next, click on the Add button to add a rule. Internet Mail will show the Properties dialog box you can see in Shot 5.17.

In the When a Message Arrives That Meets the



DUKE SEZ

Filtering's the fancy name for making what e-mail and Usenet warriors like to call a *kill file*: You don't like something, you tell your mail program or newsreader to kill it before it gets to you, kinda like your cat does with mice. Only difference, the mail program or newsreader will kill it completely, and they won't leave any entrails lying on the carpet for yer inspection. Check your e-mail program and newsreader for kill-file capabilities. If they've got 'em, use 'em.



SHOT 5.17: Take aim at your victims in the Properties dialog box.

Following Criteria group box, enter one or more rule describing the messages you want to shut down. Say you want to dump all messages from anyone at **freesexy.com** into your Deleted Items folder, you'd enter **freesexy.com** in the From box. Say someone went off the handle at one of your posts and decided to flame you a few thousand times, you could enter their favorite terms of abuse into the Subject box so this junk gets dumped into your Deleted Items folder right beside that crap from freesexy.com. Or you could put your chick's name in the From box to have Internet Mail drop her messages into a special folder so they don't get lost in the tidal waves of trash that tend to fill active mailboxes.

Once you've created your rules, use the Move Up and Move Down buttons to tell Internet Mail which criteria it should check first if any message matches one or more rules. Got it? *Alright*. And you can change any rule by clicking on it in the list box and then hitting the Properties button. You can also ditch any rule by selecting it and punching the Remove button.

Easy enough for ya? Yeah, these filtering capabilities are pretty cool—that's why you can be damn sure that Netscape's gonna have 'em real soon, and probably with twice as many features.

OVER THE TOP

The problem with Usenet—hell the problem with the Internet—is that there's just too damn much of it. It's real easy to blow 20 years sorting through a flood of Usenet posts. It's just as easy to miss out on a life filled with battle by clicking your way around 2 or 3 million Web sites. Well I ain't gonna let that happen. Sure, yer a punk. Yeah, yer a scrub. But you're also starting to grow on me, kinda like a big, fleshy, bipedal fungus. That's why I'm gonna show you how not to waste the best years of yer life. I'm talking about Level 6, where you'll score all the Internet recon tools, tricks, and techniques you need to get what you want fast and take it over the top. This stuff ain't hard to find—just turn the damn page.



LEVEL

6



Internet Recon with Duke



Not bad, scrub. You made it through Browser Boot Camp in one piece and ya drilled on e-mail and Usenet—looks like you're all hooked up and ready to go. Only one question—where ya gonna hit first? Like I been tellin' you, this Web is HUGE. Without the right tactics, it's real easy to waste a lifetime looking at all the *wrong* sites. And when you're hungry for combat, you don't want to get stuck reading page after page filled with recipes for low-fat quiche.

Sure, this book gives you a bunch of cool Web site addressses, especially in Levels 1 and 8. And yeah, you can get loads of other URLs from friends, game rags, and online informants. But if you want to be a real cyberstud, you gotta get self-sufficient and learn how to scout the Net for yourself.

That's what Level 6 is all about. This time out, your mission is to learn how *not* to blow yer free time jumping between Yahoo Cool Sites and Joe Bob's Eskimo Swimsuit Hot Links. That means getting *intelligence*—both kinds: brains and information. You gotta have enough smarts to put together strategies for getting what you want, and you gotta have enough background intelligence so you don't waste time following weak leads. I can't boost yer I.Q., but I can show you some kick-ass tricks and tools for targeting what you *want* and snagging what you *need*. Before we're through here, Duke's gonna turn you into a true Internet recon expert.

WUSS SEARCHES

You wanna act smart? You gotta start by knowing what's stupid.

DUMB IDEA #1: PRINTED WEB YELLOW PAGES

There are lots of dumb ways to look for things on the Web. The dumbest might be picking up one of those Web Yellow Pages/directories they're selling down at the mall bookstore. See, the fast-changing Web stretches most books 'til they scream. Paper and ink are the wrong weapons for this job. Here's how it breaks down:

Yer average directory takes about 12 weeks to write and edit, 4 weeks to produce, 2 weeks to print, and 1 week to distribute. Meanwhile, thousands of new sites are getting put up and tons of existing sites are changing addresses or getting shut down. Say you grabbed that book after it'd been on the shelf for a few days, or weeks, or months; the price stays the same, but the information inside those covers gets lamer and lamer.

But wait—there's less. . . .

These phone books don't have even a shot at being comprehensive. Maybe they can cough up a few thousand addresses. Hell—let's pretend they can pack in a hundred thousand addresses. At last count, the Web had more than 50 *million* Web pages. You wanna *buy* a book with 50 million URLs? You wanna *read* a book with that much crap in it? These guys are trying to stuff a hungry bear the size of Utah into an empty beer can. Duke sez watch out for those claws.

Welcome to the late 20th century: You gotta deal with 50 million pieces of data, you use a computer. And if you already picked up one of these Web directories, hey—no problem. They make pretty good weapons if you let 'em fall from a few stories up.



DANGER ZONE

Here's a good rule of thumb for printed Web directories: The more they list, the more they charge, the smaller text they use, and the worse job they can do on little things like checkin' facts.

DUMB IDEA #2: CLICK 'TIL YOU DROP

When you first start cruising the Web, it's real easy to get sucked into the idea that you're covering tons of ground at the speed of light. Just hit that mouse button and you're on yer way. Thing is, spending all your time clicking around the Web is kinda like trying to haul ass from Bangkok to Brazil on foot. Good news: You get to see lots of interesting sites along the way. Bad news: You're gonna drown before you get where you want to go. Bottom line: Your goal is to find kick-ass stuff on the Net, not to blow the

afternoon wormin' yer way through a maze of junk. Stay focused and keep clear of serious time sucks.

Most Ad Links Bite

Look, it ain't complicated—this is *advertising*! You might have to watch the damn things on TV; you might have to look at them on the sides of highways or in magazines; but you sure as hell *don't* have to click on them. See, advertising is the science of freezing someone's brain long enough to pick their pocket. To most Internet advertisers, you're not a person, you're a "hit," someone who visited (hit) the site. So many hits make a dollar; so many dollars make a Gates. Just because you see a hoop don't mean you gotta jump through it.

Most Links Sites Blow

You'll hear a lot of guys crowing about their awesome links sites. Truth is, many of these "awesome" pages don't have any real content of their own; they just link you to other sites—and sometimes that means just linking you to other links. I'm talking about sites that do nothing but sit around and point at each other. Welcome to The Void. Sure, if they were pointing *guns* at each other you might have a groovy John Woo flick. As is, if you haven't seen anything besides a list of links in your last 20 minutes online, it's time to holster that mouse. Or you *could* turn to the ultimate links page—an online Internet search engine.



INTERNET SEARCH ENGINES— LEGAL SEARCH AND SEIZURE

Internet search engines are sites that combine a massive amount of info about the Net with monster computers and programs designed to let you reach deep into the stream and pull out what you want. These search engines cover way more territory than any book could, they stay much more up to date, and their tools give you everything you need for precise targeting.

There are lots of powerful search engines out there. Some people use Lycos, some swear by Yahoo, others say AltaVista rules. As the Web keeps growin', we'll keep getting

better and better search engines, just like I keep getting better blasters to waste cruds. Don't get suckered into feeling loyalty to any one search site—check 'em all out once in a while; it's the only way to find out what yer missing.

You're about to take a tour of some of the best search engines around, starting with Magellan, then tearing through Lycos, Excite, Infoseek, Yahoo, and Beaucoup before you land at my fave: AltaVista.

Along the way, I'm gonna teach you basic search strategies you can use to bend *any* search engine to yer will. See, these search engines change the way they look more often than I change weapons. Even while I was writing this

level, Lycos went through a vicious facelift. Man, I was pissed when that editor crawled up to me and begged me to rewrite the Lycos section. His last words were "Do it for your readers." Yeah, I took good care of you guys, but not 'til after I took care of *him*.



DUKE SEZ

Look, don't worry if some of the specifics have changed again by the time you read through this stuff. Once you learn how to search, it won't take much to apply any of these tricks to the Web's latest and greatest.

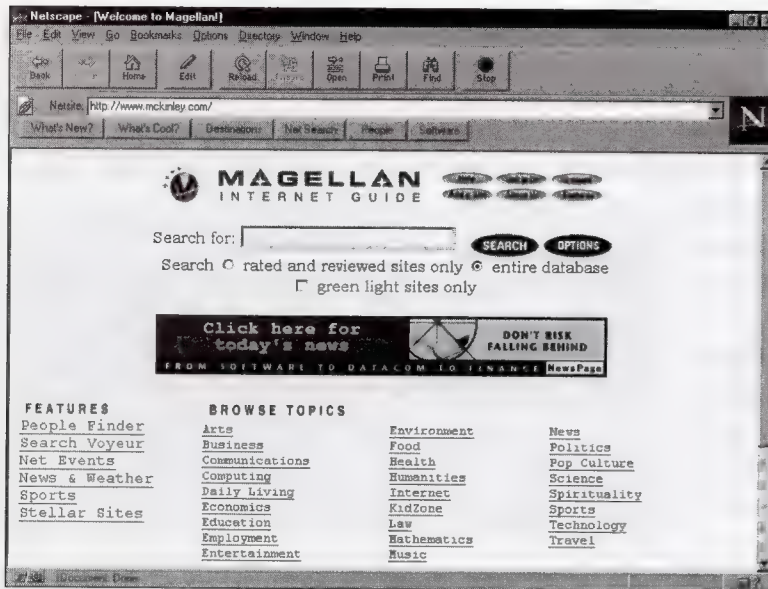
MAGELLAN—REVIEWS, LINKS, AND SEARCHES

You can find Magellan at <http://www.mckinley.com> (see Shot 6.1). This site is named after an old-time, gold-hunting embezzler who led the first ships around the world. Like most other early explorers, this guy got his ticket punched for trying to rip off the natives. Yeah, it was the Age of Discovery—of other people's loot. Guess the folks who named this site hoped "Magellan" would make people think "global searching" instead of "white man's greed." Nice try.

Magellan's strength is that it has a staff that gives a shit about what's on the Web. Magellan's people scout the Net, check out individual sites, and rate and review 'em. They also have a big list of unrated, unreviewed sites, but that database don't score too well against the big boys like Lycos and AltaVista. It's the reviews and ratings that make Magellan stand out. You'll find tons of new sites and updated info here each week—just like you will at *every* search site on the Net—so regular searches on the same words can score different booty.

Magellan's rating system uses up to 4 stars to tell you how comprehensive, up-to-date, organized, and innovative these sites are. It's sorta like your friend warning you about a blind date by comparing her to a





SHOT 6.1: Magellan's home page

series of babes from Pamela Lee on down. That warning can save you a lot of time and trouble, but it's also real subjective. Hey—some people think Pamela looks kinda freaky.

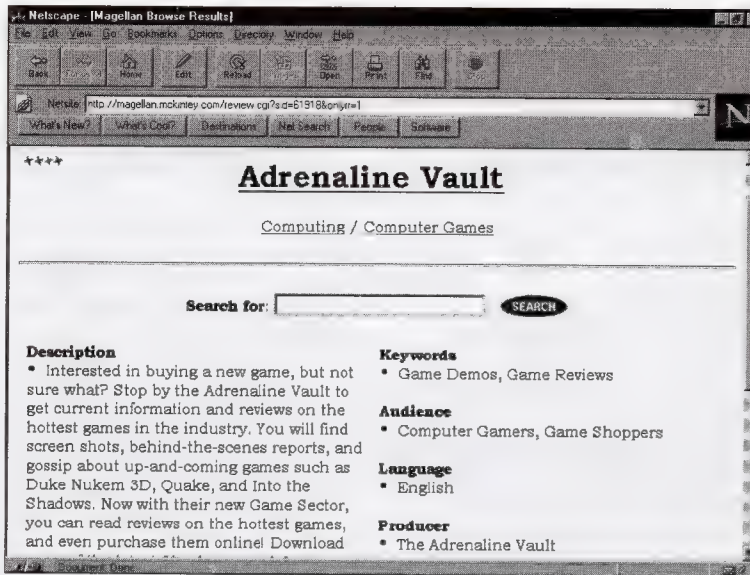


DUKE SEZ

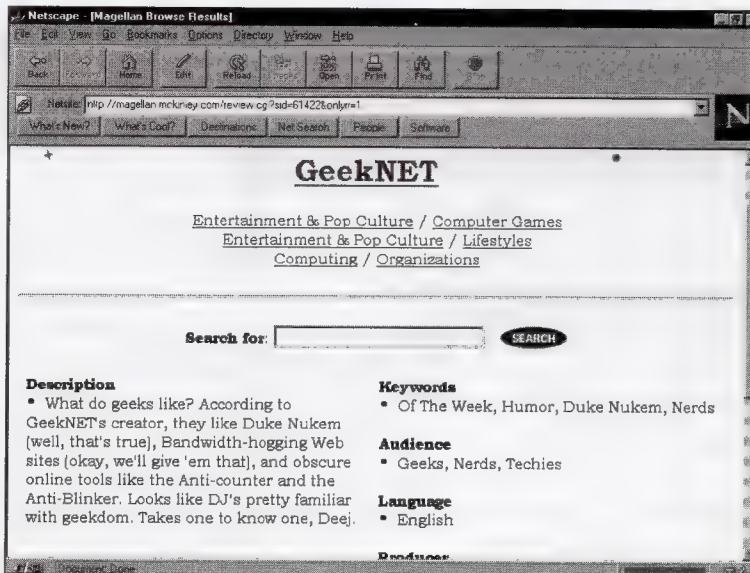
Although their big database has all kinds of crap in it, Magellan doesn't rate or review Web pages with stuff like porn or sites put up by psychotic hate groups. They also nail a green dot next to the names of sites that have G-rated content. No bikinis, nudes, Michigan Militia help wanted ads, anarchist cookbooks. . . . All this makes Magellan one of the better search sites for the under-18 set. Before you run a search from Magellan's home page, you can tell the search engine you wanna scout the whole database, rated and reviewed sites only, or "green light" sites only.

Many, but not all, of the rated sites also get full-on reviews. If you see a link named Review, you can click on it to pull it up on yer screen. This ain't rocket science. Some of these reviews rock. Others don't. Check out Shots 6.2 and 6.3 for a couple examples.

Like a lot of search sites, Magellan lets you browse or search its info. Browsing works like a huge links site. Most Magellan pages have a



SHOT 6.2: Nothin' rocks like a vault full of adrenalin.



SHOT 6.3: Nothin' sucks like a Web page made by geeks for geeks.

Browse button somewhere near the top of the screen. Start clicking around and you go from topic to subtopic to a list of sites. It can be real tempting to punch that button, but, just like those “awesome” links pages, it can also turn into a real time suck. Go ahead, try it. Click on whatever sites you want. After you’re done and yer brain comes back online, you’ll be ready for a precision search.

Yer First Real Recon

Magellan has a decent search engine that’s pretty easy to use. Most Magellan pages have a “Search for:” box. Type in a word that’s got something to do with what you

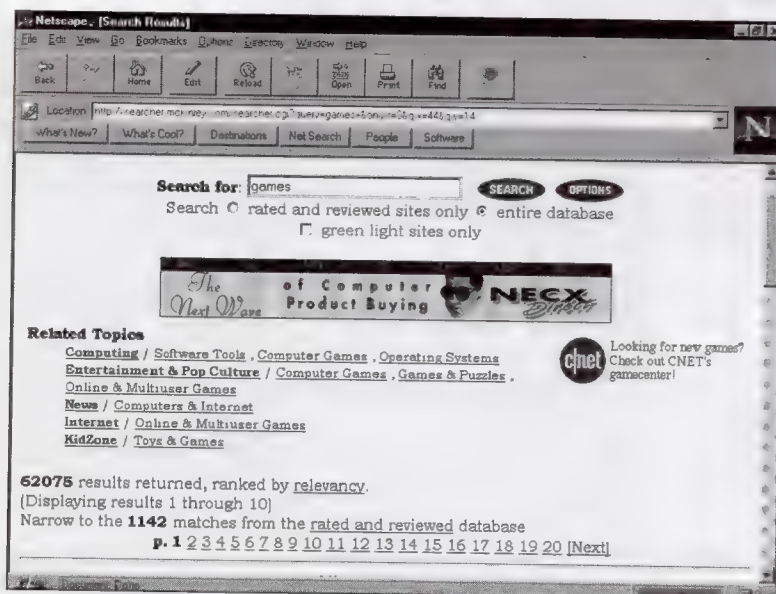
wanna find and punch the Search button. That’s all you gotta do—if you’re a moron. Search on the word “games” and then check out what you get (also shown in Shot 6.4).

If you got a few centuries to kill, you just might have time to sort through



DUKE SE2

What you type into that “Search for:” box is usually called *yer query* or *search string*. Gettin’ good at Internet recon starts with knowin’ how to put together a search string that’ll squeeze out all the info you want with as little trash as possible.



SHOT 6.4: This is about 62,000 more sites than you probably wanna deal with at 1 time.

all this stuff. See, when it comes to search results, more ain't always better—most of the time, getting more search results just means you got lousy aim.

Search 'Em All and Let AI Sort 'Em Out

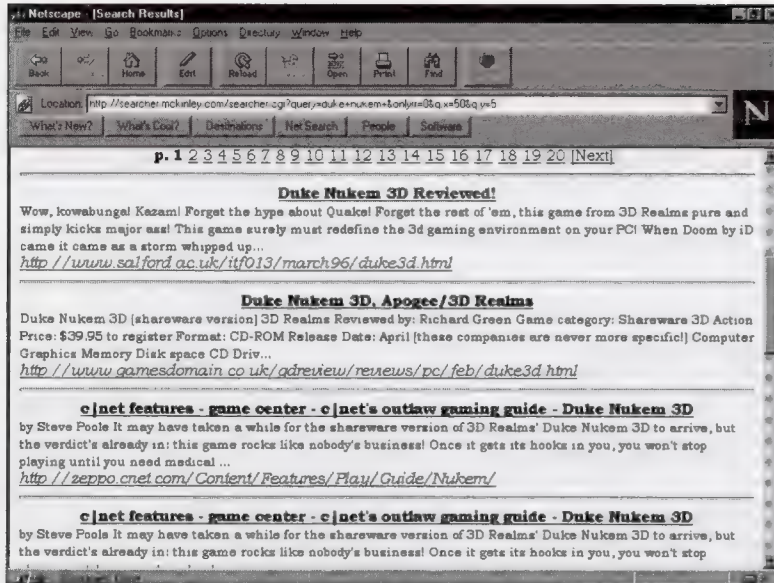
Who sez which entries come first and which come later in yer results list? AI sez. The Magellan search engine uses artificial intelligence routines to nail down the “relevancy” of sites to your request. Here are some of the things Magellan’s AI checks for:

- Has it been rated and reviewed? (That kinda site is marked more relevant.)
- How many of the words in your search show up in Magellan’s record of the site?
- How many of the words in the search are in the site’s title or URL?
- How many of the words are *keywords* (words that sites supply search engines to ID their content)?

Relevancy really matters with Magellan—even if you get 62,000 results, you can only check out the top 200. A lot of the people who make Web sites try to fix this game in their favor by sendin’ search sites a file of keywords that includes only one word (like “games”) repeated a hundred times. That way, if someone types “games,” their site’ll have more matches than others and will get ranked first.

It ain’t enough to go stand on some roof and scream “games” at the top of yer lungs—you want results worth a damn, you gotta get specific. Let’s say you’re looking for the coolest game out there—Duke Nukem. Type in **duke nukem**, hit that Search button, and look at the list. You can see the results I got in Shot 6.5. It’s close to what you wanted: 3D Realms and Apogee show up here and there, but you still scored 1,671 results.

When you type in 2 words, the search engine looks at Magellan’s list of Web site home pages and reviews, and it pulls out sites with any mention of “Duke” (Duke Nukem, Duke University, Duke Ellington) or “Nukem” (say, Troma Productions’ Nukem High), or “Duke Nukem” (3D Realms, Apogee, and about a hundred thousand other sites). In fact, there’s a good chance that most of yer 1,671 results don’t have anything to do with me at all. What gives?



SHOT 6.5: First blood

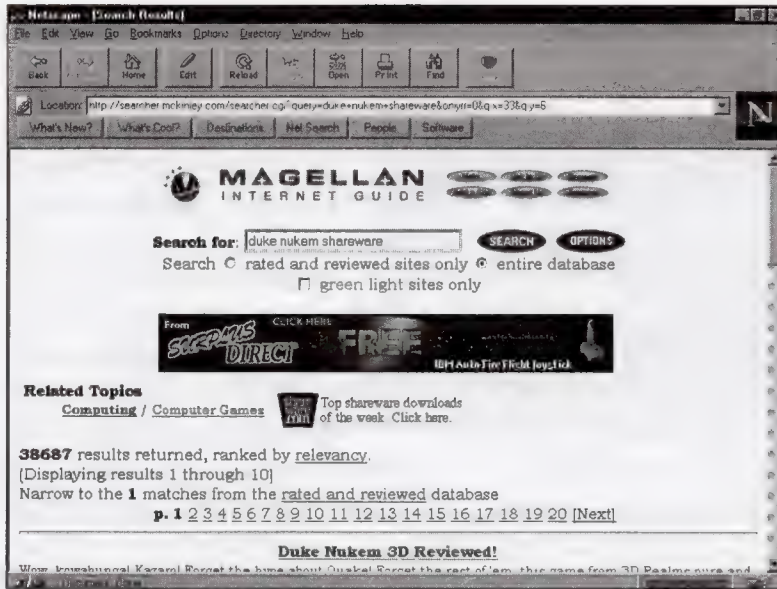
You probably wanted to either contact 3D Realms and tell them how cool I am or find a site to download the first episode. Give it another shot. Most people would try to make their search more specific by adding more words. Most people would be idiots. Check out Shot 6.6 to see what happens when you search for **duke nukem shareware**.

Great, 38,867 results—22,000 *more* than last time. Instead of choppin' down your search, you *expanded* it to include all those sites that have shareware. This last search pulled in sites with the words "Duke" and/or "Nukem" and/or "shareware." Not what you wanted.

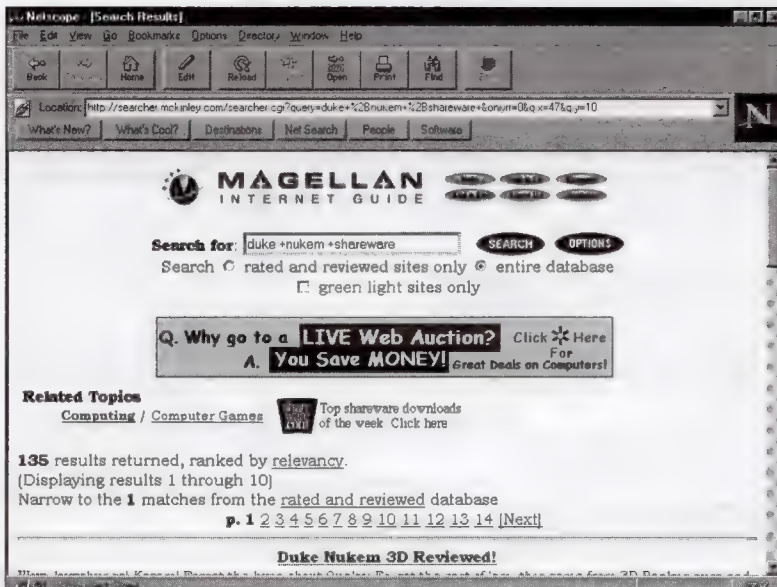
Hey—don't panic. The Magellan search engine lets you say what you *really* mean. By adding a + sign to yer search string, you can force the search engine to only look for sites that have *all* the words you type. To look for the shareware version of Duke Nukem, try **duke + nukem + shareware**.

This finds only those sites that have the words "Duke" AND "Nukem" AND "shareware"—exactly what yer looking for. This time out, only 135 sites popped up (see Shot 6.7)—gettin' close.

It's all about *syntax*. Syntax is a nerd word for shouting out precise commands. Spelling counts. Exact choice of commands counts. Hell, where you do or don't put a space counts. When it comes to Internet recon, syntax is king. You wanna get Magellan



SHOT 6.6: You're focused. Why ain't Magellan?



SHOT 6.7: That's more like it.

to roll over and bark like a dog, you gotta get its search syntax down cold. All search engines care about syntax, and even though there are big similarities between 'em, they

don't all speak the exact same language. Once you start usin' one of these search engines a lot, yer gonna have to learn how to speak its syntax like it was yer mother tongue.

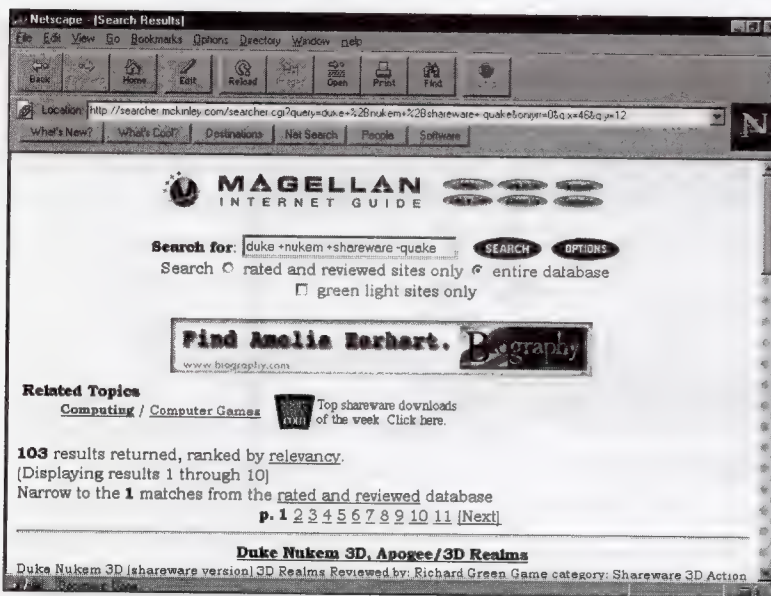
Alright, where there's a +, there's usually a -, and this ain't no exception. The

minus, as ya might've guessed, tells Magellan to pass on any site that mentions the taboo word. Type in **duke + nukem + shareware -quake**. This should score you sites that stick with the very best. Check out Shot 6.8 for a look at my results. Sure, you can still get some stray entries that accidentally matched your search string, but yer one helluva lot closer to the mark.



DUKE SEZ

Even though syntax has to be precise, lots of search engines give you a choice of commands. It pays to scout around each site for the specifics. They're usually buried behind some "how to" or "about" link.



SHOT 6.8: Looks like 103 outta 135 sites have *real* taste.

Battlefield Test

OK, time for a quick drill:

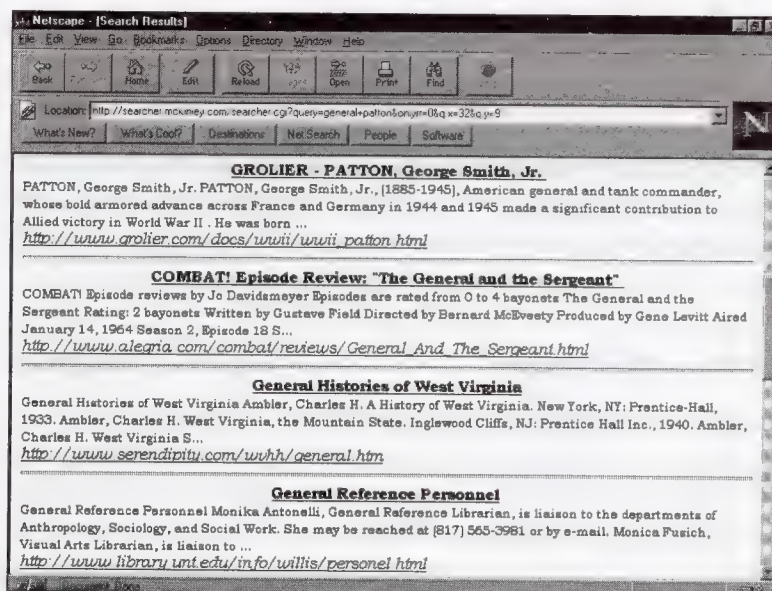
Try entering **general patton** into the “Search for:” box and see what ya get. Looks like there’re some sites that talk about General Patton, but there’re also tons of sites like General History of West Virginia and General Reference Personnel (see Shot 6.9).

Any clue why? That’s right—your search was waaay too general. So try searching for his name using the right syntax—type **general + george + smith + patton** and then hit the Search button. That’s one way to pull up sites that focus on ol’ Blood and Guts (see Shot 6.10).

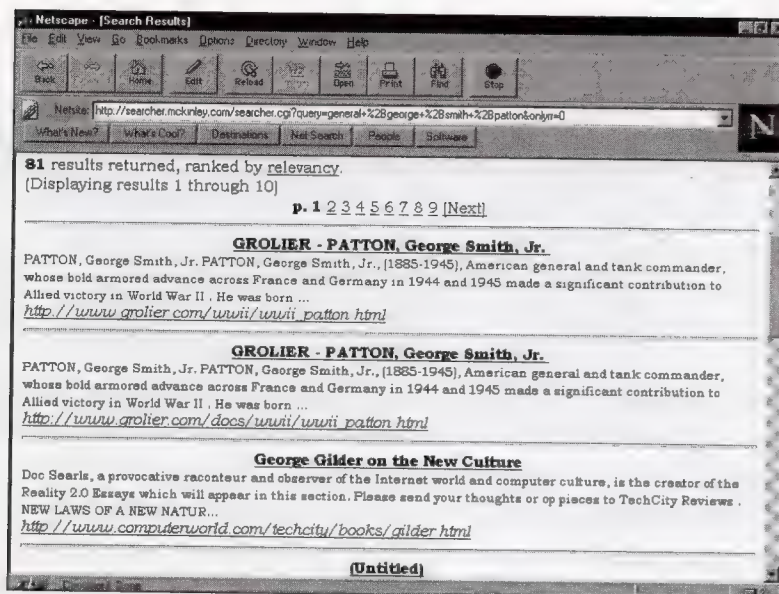
If you type **general + george + smith + patton -eisenhower** (because it just breaks yer heart to read about the big guy gettin’ fired) and then hit the Search button, you chop your search down to 74 sites. Hey, but don’t get too caught up with yer new-found powers—you start getting *too* precise, you might miss something groovy.

Boolean Basics

With a little brain work, you can get all this plus and minus stuff to crank at almost any search site out there. Here’s what ya learned: You type in 2 words, Magellan shows you sites that match the first word OR the second. You put a + between those words,



SHOT 6.9: Blood and Guts . . . and West Virginia?



SHOT 6.10: George C. Scott would be proud of ya.

Magellan narrows things down by showin' you sites that match the first word AND the second. Throw in a minus instead, you get to sites that match the first word, but NOT the second. The fancy name for this is *Boolean searches*.

Here's a quick look at how these guys work: When you search for "Duke" OR "Nukem" (remember, in Magellan that just means listing two words with a space between 'em), the engine knows that the only "true" docs it finds are those that have both or either of those words. The rest is considered "false." The search engine then shows you what's true and doesn't waste yer time with what's false. Here are the tests that search engines like Magellan run on all those docs at up to hundreds of millions of operations per sec:

- ☛ Duke OR Nukem = TRUE (listed)
- ☛ Duke OR (garbage) = TRUE (listed)
- ☛ (garbage) OR Nukem = TRUE (listed)
- ☛ (garbage) OR (garbage) = FALSE (ignored)

Now, say you threw in a plus sign and searched for Duke AND Nukem. The search engine now sez that the only true documents are those with both words; the rest of the Web is labeled false. This time out, the tests go:

- ☛ Duke AND Nukem = TRUE (listed)
- ☛ Duke AND (garbage) = FALSE (ignored)
- ☛ (garbage) AND Nukem = FALSE (ignored)
- ☛ (garbage) AND (garbage) = FALSE (ignored)

And just for the hell of it, say you search for Duke NOT Nukem: All docs that have the first but NOT the second are true. Anything else is tagged as false. The tests now run:

- ☛ Duke NOT Nukem = TRUE (listed)
- ☛ Duke AND Nukem = FALSE (ignored)
- ☛ (garbage) AND Nukem = FALSE (ignored)
- ☛ (garbage) or (garbage) = FALSE (ignored)



Remember all that crap a little bit back about syntax? The way each search engine wants to see these statements depends on the syntax that engine is built to understand. Some use + and -, some use AND, OR, and NOT, some use both, and some rely on pain-in-the-ass pull-down menus. It all does the same job.

I started off calling this “Boolean Basics,” and that’s no lie. There’s more to Boolean searches than just AND, OR, and NOT, but I’m gonna save that stuff ’til we get to AltaVista, a little later on. All this boolshit and capital letters gives me a damn headache.

Magellan’s Bottom Line

Even though I started this level talkin’ about Magellan, it isn’t the “best” one out there. Its database is smaller than Lycos, and its search engine is weaker than AltaVista. But its reviews and ratings are pretty cool, its search engine is easy to use, and its look-and-feel is solid. It’s a good overall search site to train on, and a great site for people who wanna stay clear of the Net’s seamier side. Use it for simple missions, like downloading some rockin’ new shooter, scoping out new game sites, or looking up killer

movies, bands, and books. And before you move on to the next section and Lycos, kill a few minutes giving Magellan the once over. These search sites always have some cool new feature to show off.

LYCOS

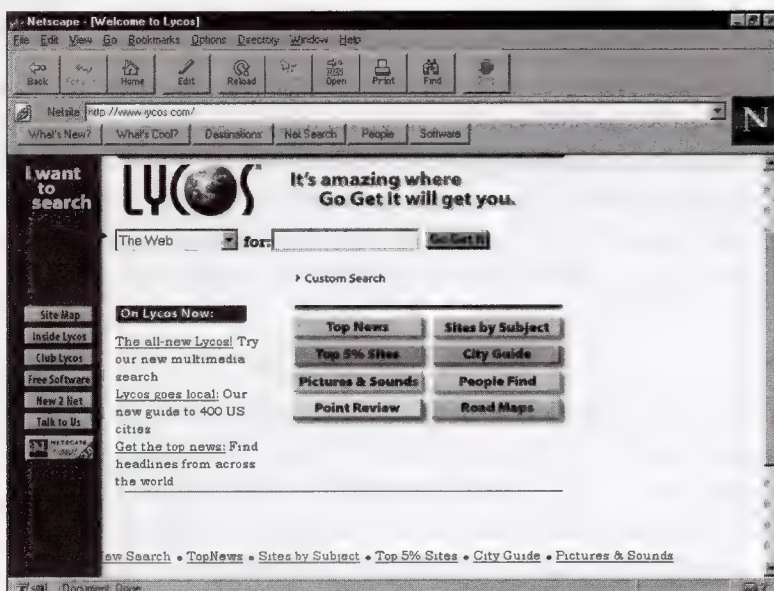
Lycos (<http://www.lycos.com>) was created at Carnegie Mellon University, where they love their computers almost as much as I love my guns. Their marching band

spells out the school's name in ASCII characters. Their cheerleaders all wanna date the football team's statistician. We're talking serious dorks with something to prove. Now these guys have a marketing budget and they're shooting enormo-magazine ads all over the place.



DUKE SEZ

Lycos is always adding new stuff. Click around and see if you like what they got. Before you move onto Excite, try the Top 5% Sites button, the Search by Subject button, and the Point Review button (they're all on Lycos' home page). And if they went and moved all this stuff around again, click on the Site Map button for an overview of what they've got.



SHOT 6.11: Lycos: It ain't just for geeks any more.

To date, Lycos has cataloged more than 50 million Web pages—that don't mean it has 50 million *complete* pages, but it has their headers, descriptions, lead paragraphs, that sorta thing. When you wanna search something close to the whole Web, this is a great place to start (see Shot 6.11).

Click on the words "Custom Search" to get a little control over how Lycos handles Booleans. You can pick AND or OR by pulling down the one you want from the Search Options menu. If you'd rather go for NOT, use the minus sign in yer search string, just like back in Magellan. Got it?

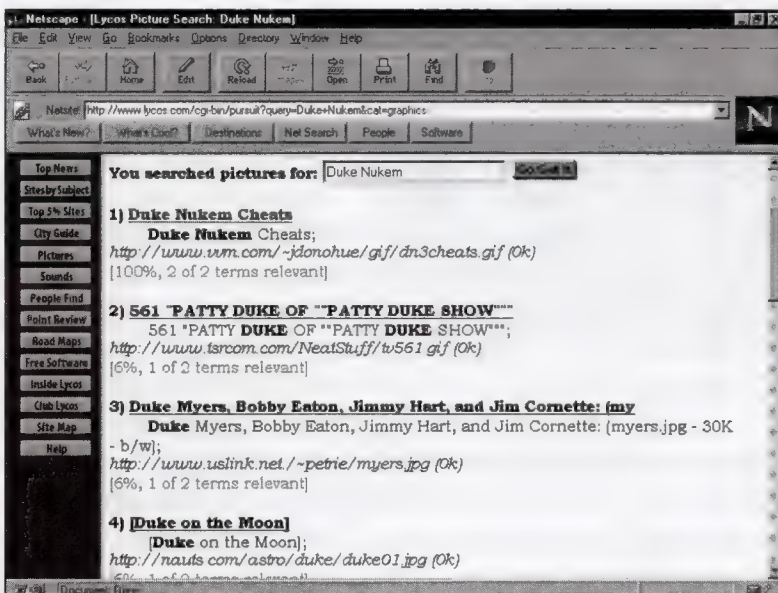
Lycos also makes it real easy to scout out graphics and sounds on the Web. To find a photo of yers truly, hit the Pictures & Sounds button on Lycos' home page. Then hit the Pictures radio button,

then type **Duke Nukem** in the search field. Here's one result (see Shot 6.12).

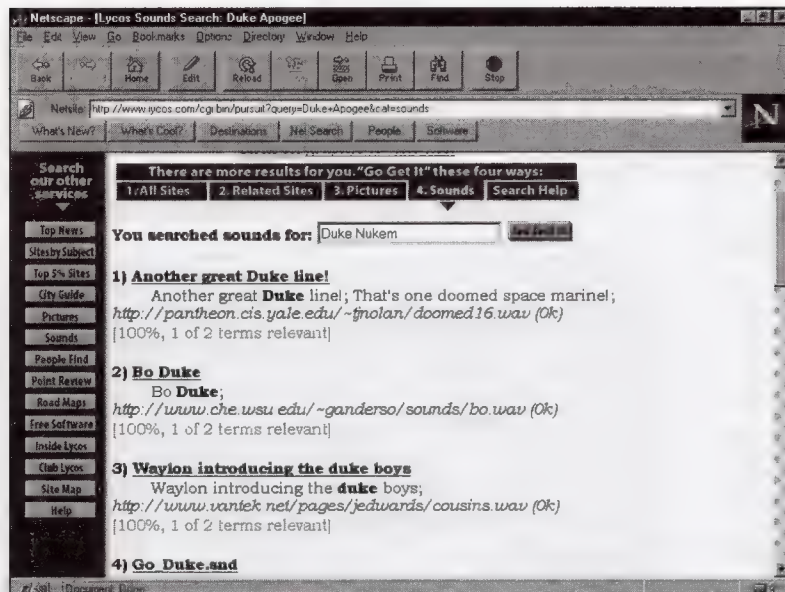


DUKE SEZ

To get to sounds and pictures, you also coulda clicked on the words "Pictures & Sounds" on the bottom of yer screen, or you coulda clicked on the words "The Web" next to the search box and pulled down to Sounds or Pictures. Whoever designed this new interface had too much damn time on their hands.



SHOT 6.12: I hope Patty Duke's as good lookin' as me.



SHOT 6.13: That's one doomed space marine, eh Waylon and Bo?

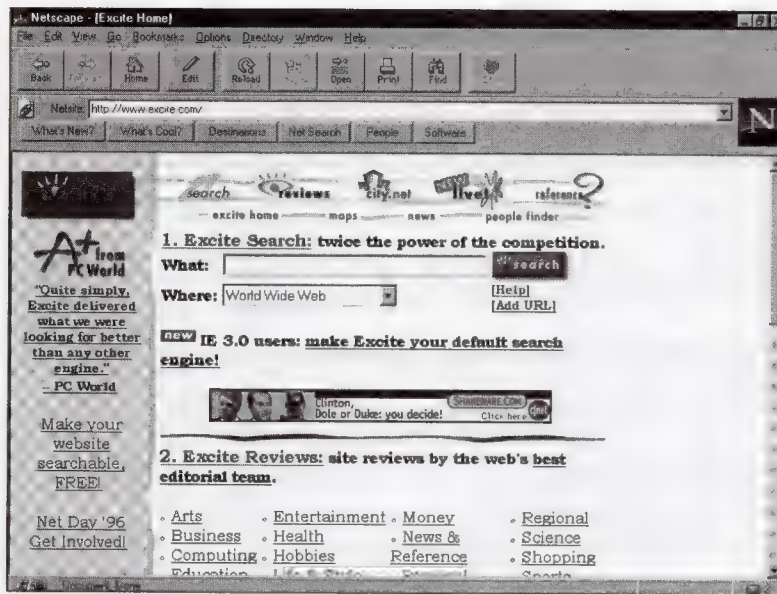
Lycos' picture search just came online last week, and it still has a lot of bugs, but by the time you use it, it'll probably work like a charm.

To hear some of my words o' wisdom, change the radio button above the search field to Sounds, and then type my name again. The results (see Shot 6.13) are just about as screwed up as the last time out. A little fun-with-Booleans woulda helped out here.

EXCITE

Excite (<http://www.excite.com>) has a ton of options (see Shot 6.14). Yeah, they got a search engine, but they also got daily news summaries, opinion columns, cartoons, and a Magellan-like set of Web page reviews. Another cool feature is how easy they make it to search Usenet posts—all you gotta do is click on the pull-down menu next to "Where:" and pick Usenet Newsgroups instead of World Wide Web before you hit that Search button.

Excite's database has about as much info as Lycos (over 50 million pages covered). They've also recently added some serious additional firepower for their searches with a major search engine upgrade. You can use Excite as a simple search tool or a real advanced one. By now, ya gotta know which way I want you to go.



SHOT 6.14: Excite comes outta the Web-in-a-blender school of design.

Say yer looking for info on UFO abductions, you could type **UFO abductions** and hit the Search button (see Shot 6.15 for a look at some of my results).

You could also haul out the ^ symbol. Excite uses ^ to increase a word's relative weight in yer search. This tells the engine that some words in the search are more important to you than others. Let's say you want the real scoop on the Roswell UFO. If you type **Roswell UFO sighting** the engine gives all these words the same value, and you might score the list of sites shown in Shot 6.16.

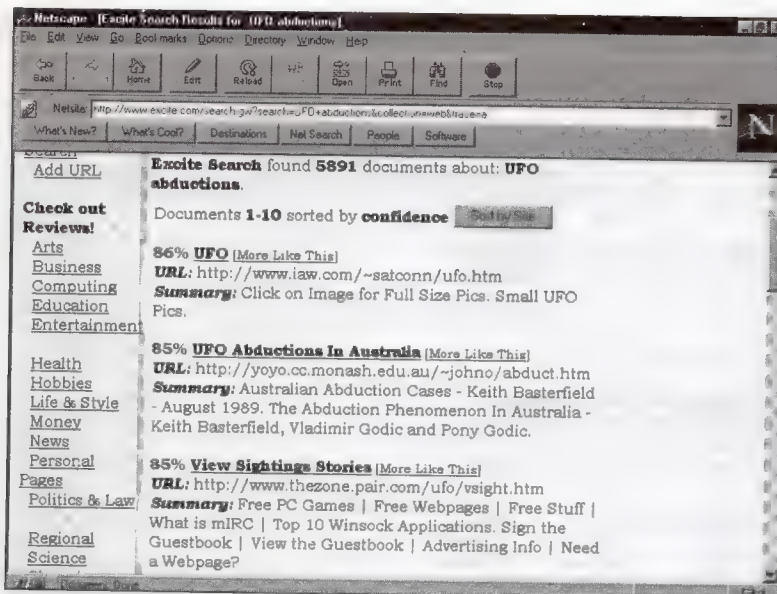
If you tell Excite that the word "Roswell" is the most important word in your search string you get more targeted results. When I searched for **Roswell^9 UFO sighting**, I got the Shot 6.17.

Screw around with this symbol. It's a weapon worth usin'. And be sure to read through Excite's help files—it's amazing how much power this new engine packs.

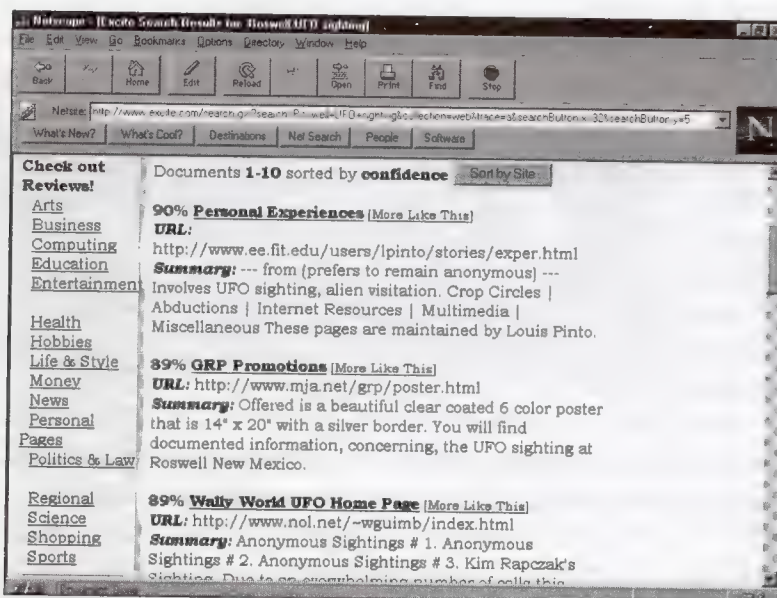


DUKE SEZ

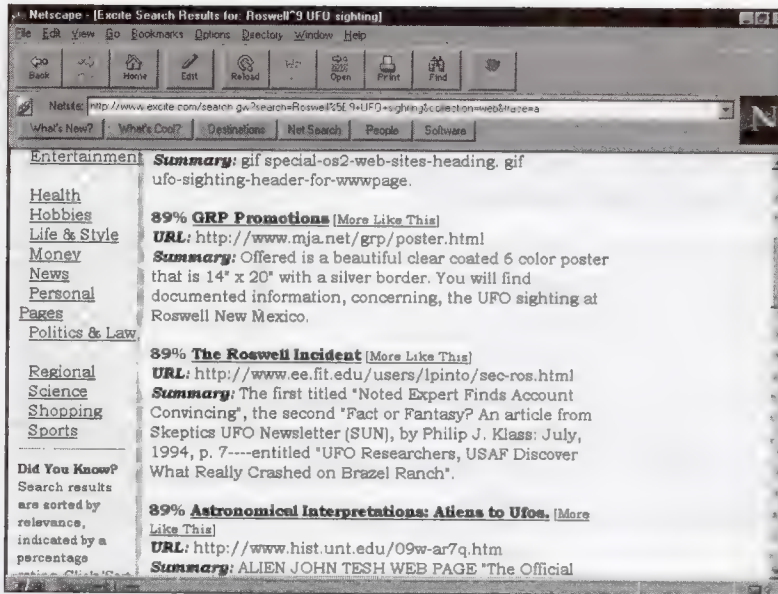
Word on the street sez Excite went and bought Magellan a little while back. Too early to tell what that's gonna mean for the future of either site.



SHOT 6.15: UFO abduction in Australia? Looks like Duke's gonna be doin' some Fosters soon.



SHOT 6.16: Wally World? The perfect family UFO vacation spot.

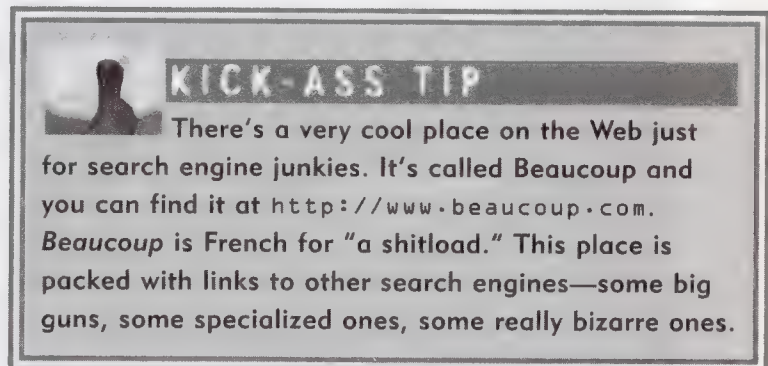


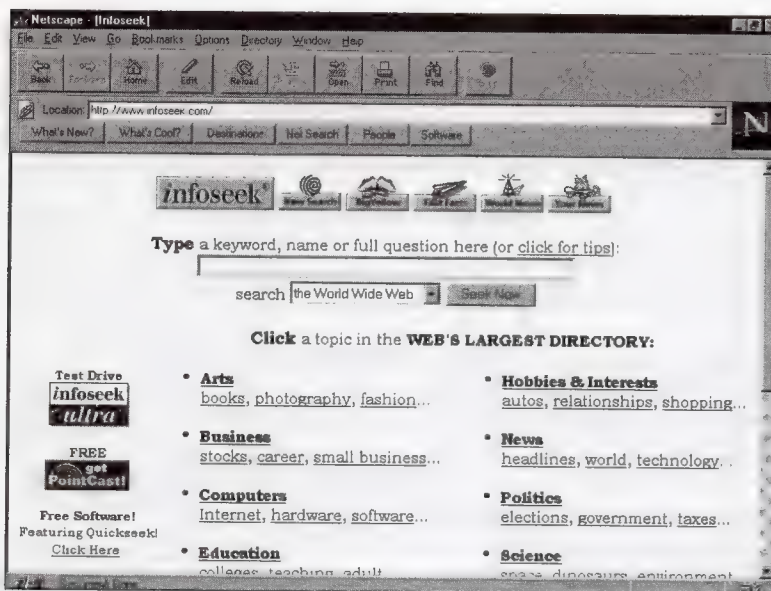
SHOT 6.17: Only Duke knows what *really* crashed at Brazel Ranch.

DESPERATELY INFOSEEKING YAHOO, BEAUCOUP

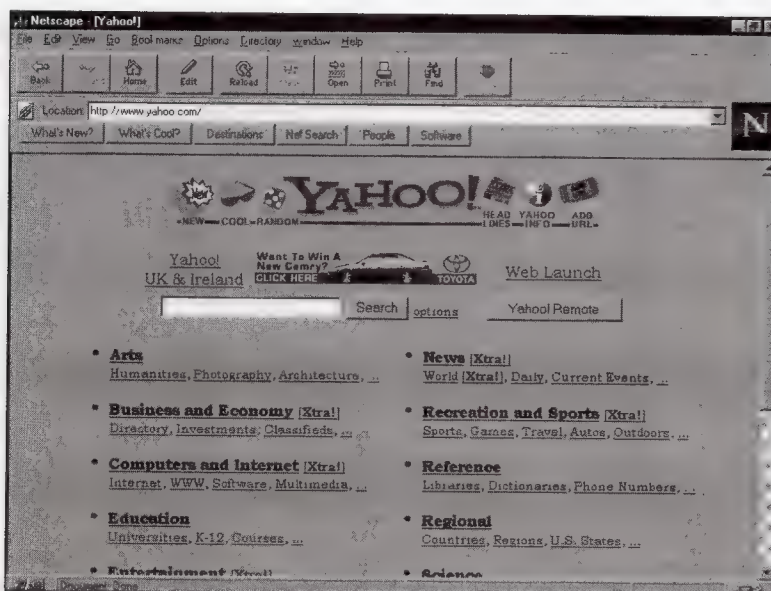
Some guys say Infoseek (at <http://www.infoseek.com> and shown in Shot 6.18) has the most accurate searches around. Deja News (<http://www.dejanews.com>) has Usenet searches. HotBot (<http://www.hotbot.com>) comes from the people at *Wired* magazine and it's got over 54 million pages tracked. Even with all this competition, Yahoo (at <http://www.yahoo.com> and shown in Shot 6.19) may still be the most popular search site on the Net. Yeah, there's tons to choose from. And while yer at it, don't forget to check out

<http://www.search.com>—a CNET site that lets you tap into most of this stuff in one place.





SHOT 6.18: I've seen alien mutants prettier than this.



SHOT 6.19: I've seen blown-up alien mutants prettier than this.

Me, I didn't pull my favorite search site out of a hat. I put together 3 or 4 different topics, and then I ran my own taste test. I screwed around with each engine's options, changed display and relevancy settings, trotted out some Boolean statements, and then I compared the results against each other, looking for a number of useful results, speed of delivery, and ease of use. That's how *you* should do it too. A gamer needs a different search site than a rocket scientist or a professional merc, and you may need a different one than me. And hey—today's best search site can turn into tomorrow's old clunker.

Now if Magellan is your trusty .45-calibre sidearm, then the search engines you saw in this section are bazookas—capable of handling most searches you'll run into. But for those serious—and I mean deadly serious—searches, the Web has one nuclear weapon—AltaVista. When you want to search for something painfully obscure; when you want every possible match you can make; when you want enough power to fry the Borg mothership, then jack into AltaVista. It's the kick-ass end to all kick-ass search engines.

ALTAVISTA—AN ATOMIC BOMB NAMED SUE

Where'd they get off namin' this powerhouse AltaVista? What kinda wuss name is that? Mebbe it's foreign or something. When I type in <http://www.altavista.digital.com>, I feel like I'm gonna end up at some mineral water's Web page. Screw that—I'm renaming it right now! From here on in, call AltaVista "AV," pronounced Ay-Vee, as in Hum-Vee. Hey, I feel just like the Wizard of Oz: "You don't need *real* balls to have balls, you just need a name that *sounds* like it has balls. Now you, Lion, and Tin Man, get out there and kick some serious ass!"

The company that made AV used to be pretty high-powered in the computer biz; DEC, the people who invented minicomputers, put the screws to IBM for about a decade. Nowadays, when it comes to selling hardware, they ain't quite so hot. I figure AV got started 'cuz DEC had tons of these minicomputers just lying around the shop floor doin' nothing, and some programmers got together and figured they could use these boxes to catalog the Net. Well, if that's how it came down, they got that one right.

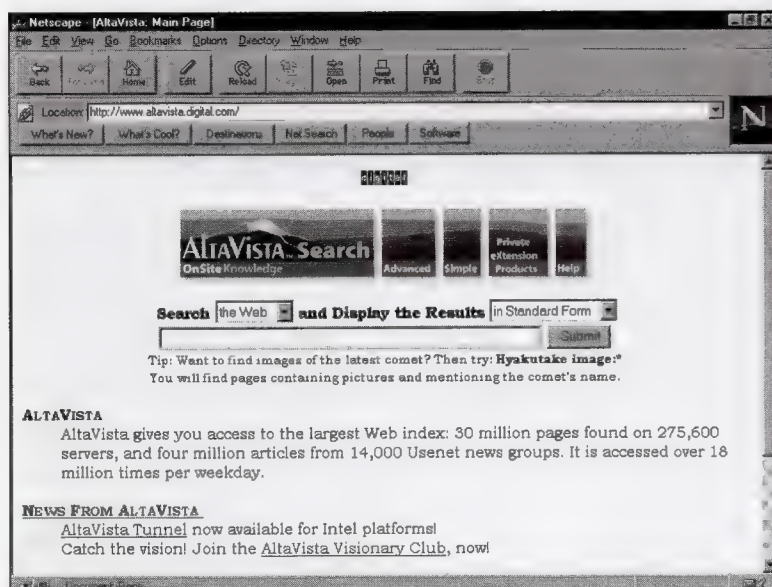
Better get ready to use most of yer brain 'cuz just about everything you picked up so far in this level gets put to use here. It's West Point ballistics class time—AV ain't no toy.

Simple (My Ass!) Searches

When you crank up AV, you'll probably pick up on one very cool thing right away—no ads. The screen looks real straightforward (see Shot 6.20) and you start out with what they call a Simple Search. Don't get fooled by the way it looks; this place was built for kick-ass recon.

Like a lot of other sites, AV lets you search the Web *or* Usenet. (You make that choice by clicking next to the Search box and pulling down yer options.) You can also control the way results display from here. On the AV Simple Search page, the options are Standard Form, Compact Form, and Detailed Form. A few more rules of the road and you'll be set to send out simple AV queries:

- ☛ When you want to force an AND search on individual words, reach for the old plus symbol (like + Apogee).
- ☛ When you want to run a NOT search, use the minus symbol (like -Quake).
- ☛ If you don't use a plus or minus before a word, AV performs an OR search.



SHOT 6.20: Yeah, well Little Boy and Fat Man were ugly too.

- When you wanna keep words together as a phrase (like Duke Nukem), put them in quotation marks (“duke nukem”) or use a semicolon instead of a space to separate the words (duke;nukem). Both these methods kill the same beast.



DUKE SEZ

You can actually use *any* punctuation marks to group words: duke.nukem and duke-nukem find the same things as duke;nukem. So every time you get pissed off at bureaucracy, do what I do—separate words with “illegal” characters. That’s outlaw syntax, baby! (The downside here is that AV can’t search for punctuation. A search for “don’t” is actually a search for “don” and “t”.)

- The star (*) symbol works like a wildcard, standing in as “anything else.” If you search for “du*e”, you could end up with stuff like “*Il Duce*,” “dude,” and “Dune.” You can use * before, after, or in the middle of your search letters—it always expands to match whatever fits between or around the letters you type. Sounds cool, and it is cool, but it can also pull in a lot of unexpected junk. Approach with caution.
- Capital letters and lowercase letters actually mean something in AV searches. If you use all lowercase letters in a search word, AV finds *all* matches of the word—uppercase, lowercase, and mixed. If you type **duke nukem**, AV will tag DUKE NUKEM, Duke Nukem, duke nukEm, whatever. But if you use a capital letter in a search word, AV looks *only* for an *exact* case match. That means a search for **Duke Nukem** brings up only Duke Nukem, not DUKE NUKEM. This can be real helpful when yer lookin’ for names, say if you wanna find a guy named John and not “the john.”
- AV’s Simple Search lets you use accented characters in your search strings for when you gotta track down foreign agents.

A few test runs with some detailed searches should get you a little closer to the fireworks. Say you wanna find a beta of some new 3D action game. Most of the search

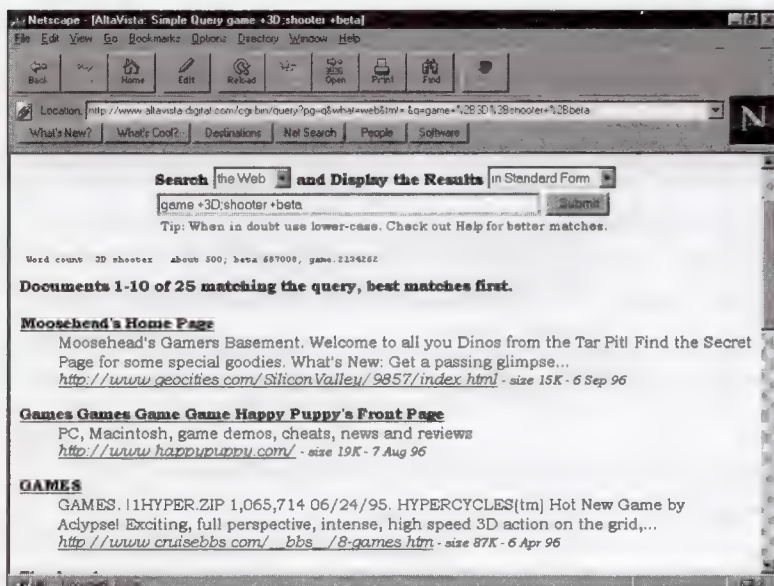
words you could use are obvious, but you can take a bunch of different routes to get to the same battlefield. Start out by typing **game + 3D;shooter + beta** and then hitting the Submit button.

Not bad—a few well-chosen words, a little grouping, and an AND search break down millions of pages to 25 results in about 15 seconds flat (see Shot 6.21 for a few of 'em).

Think about what you just did—if you'd given a million old-school librarians about 100 years, they *might* have pulled off a trick like this. You did it in a quarter of a minute. Even a grizzled veteran like me still gets a little blown away by the sheer power these searches can let loose.

Alright, enough reverie—let's see what we hauled in. This time out, the 25 sites I scored came with only one real good lead. Most of the sites were games sites that had 3D shooters *plus* a few betas of other kinds of software—not what I was looking for. Hey, believe me, this is gonna happen to you a lot—until you get better at asking for what you *really* want.

Let's try a different tactic. The goal is still to get my hands on betas of cool new shooters so I can rock with 'em before everyone else. The word “beta” is gonna get me about a 700,000 hits, so on its own, it's a lousy choice. Better work on my aim. How 'bout typing in **beta;tester**? Yeah, that could do it. But before you rush off to battle,



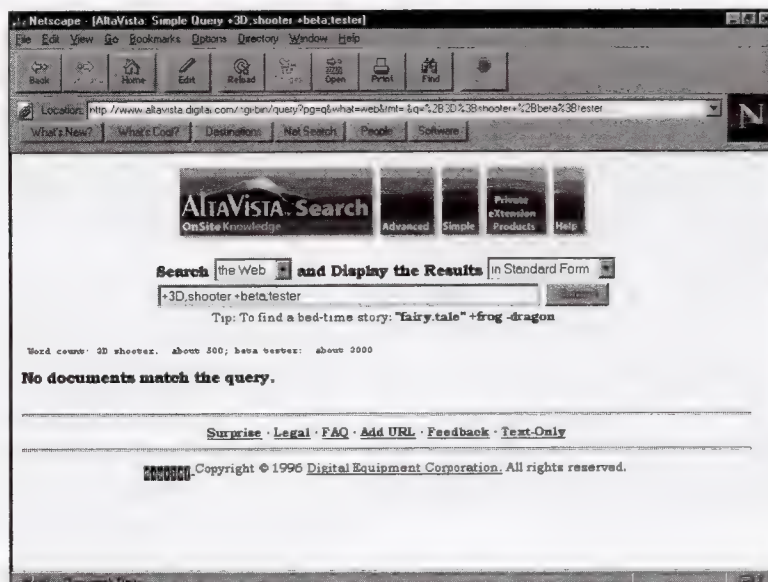
SHOT 6.21: Gunning for the gold

try makin' it even *more* specific. Remember, we aren't looking for a shitload of sites, we want *perfect* sites. Adding "+ 3D;shooter" to "beta;tester" is *real* specific, so give it a try (and then check out Shot 6.22).

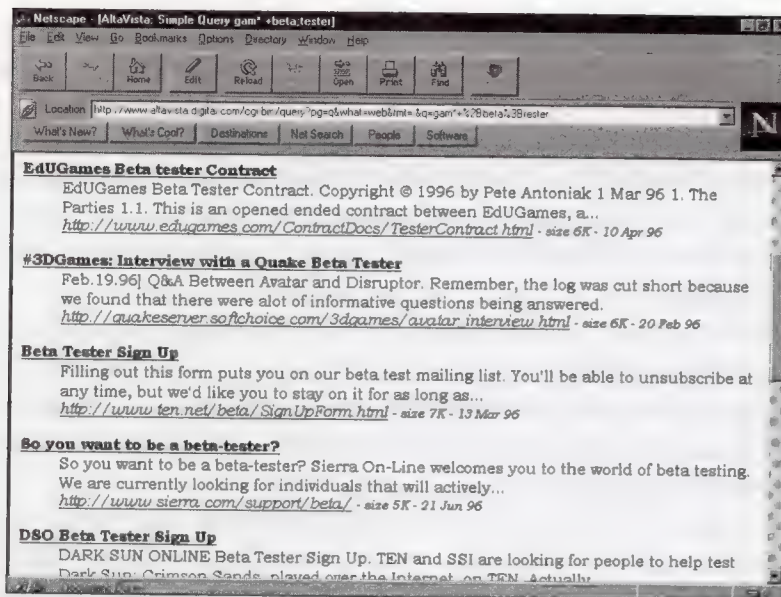
Alright, so this one didn't work today either. Mebbe it will when you try it out in the near future. Either way, the first law of serious Net recon holds true: Do the *best* search first. Sifting through nothing is a lot less time-consuming than pullin' up thousands of lame sites. If you don't get a bite on your tight search, ease up a bit. In this case, type **beta;tester + gam***.

Yeah, I coulda just used "game" as one of the search words, but AV has extra power so let's put it to good use. Typing **gam*** gets me game, games, gaming. . . (It also gets me gambit, gamble, etc., but beta;tester wipes out that crap.) Ka-ching—I hit the jackpot (see Shot 6.23) and snagged a nice chunk of sites that look pretty solid. Not bad for a few seconds thought and action.

That's how simple and powerful Simple Searches can be. Hey, but don't forget to search Usenet while yer at it. Click on the Search box, and select Usenet instead of the Web. Now run the same search again. When I tried this, AV gave up a couple hundred matches, including posts looking for beta testers, posts begging to *be* beta testers, and posts just talking about past beta testing experiences. These are all leads and some of 'em might be worth following.



SHOT 6.22: Shootin' blanks



SHOT 6.23: A solid hit—like droppin' an enforcer from 200 yards

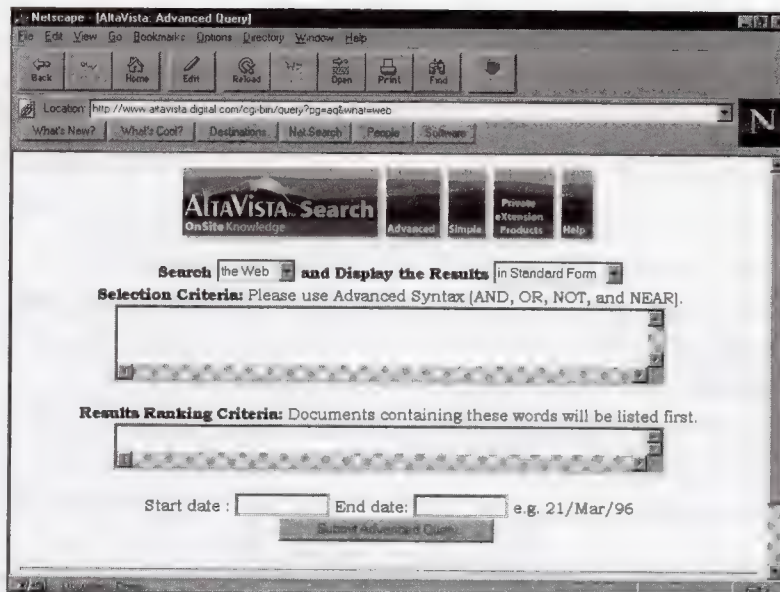
Try your own searches. When you get the hang of it, you'll feel the same power I do every time the screen redraws when I click that Submit button. It's that "*Man, I love the smell of napalm in the morning*" kinda feeling. Nothin' like it. Well, maybe there is something like it—AV's Advanced Search.

Logic Class at Nukem High

Once you got the basics down, yer gotta go nuclear. No more kid gloves—for the next couple pages, we talk the talk. I'm gonna cover logic, binary and unary operators, and expression syntax, whether you want me to or not.

You scared good and shitless? No need, you've already seen a big chunk of this stuff before, just not in these terms. See, AV was created by serious technoids. They set up Advanced Search so *they* could get the most out of it. You and me, we're just an after-thought. You wanna use their weapons? You just gotta learn how to speak a little geek.

Start by clicking on the word "Advanced" at the top of the AV home page. Once you get to Advanced Search (see Shot 6.24), forget about Simple Search's plusses, minuses, and punctuation marks. This is where you use the terms and syntax of logic to construct *logical expressions* (search strings). These expressions get built out of search words,



SHOT 6.24: Suck it up; you're in the majors now.

parentheses, and the operators AND, OR, NEAR, and NOT. AND, OR, and NOT should be old buddies by now. Let's check out the new kid.

Use the NEAR operator when you wanna find a phrase or 2 words that show up close to each other. NEAR means *within 10 words*. NEAR is perfect for zeroing in on related words—like Duke and Apogee, or joystick and driver. It's also great when it comes to searching for phrases. Phrases of more than 2 words can get linked together with more than 1 NEAR operator. If you're lookin' for General George Patton, you could type in **General near George near Patton**.



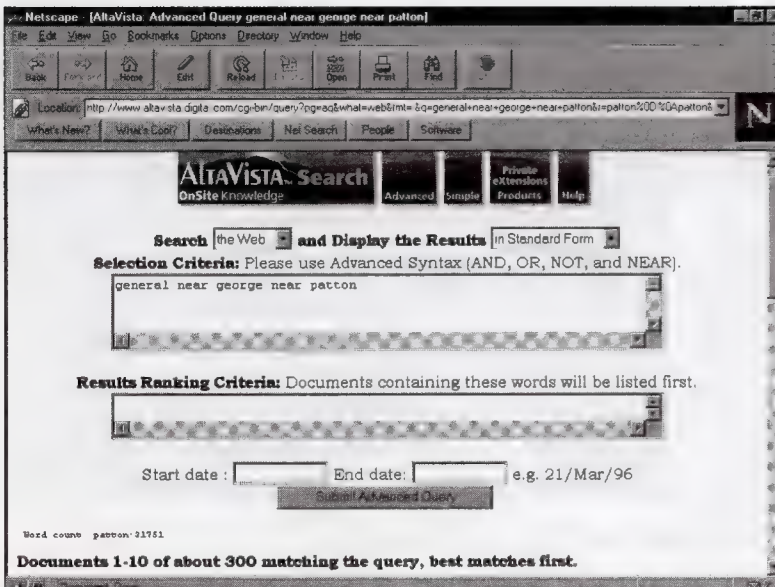
DUKE SEZ

Unlike a lot of search sites, AV operators can be uppercase or lowercase—it knows 'em both. AV also knows what the guys at DEC love to call "standard logician shorthand." The following sets of words and characters are as interchangeable as Colt .45 pistol barrels:

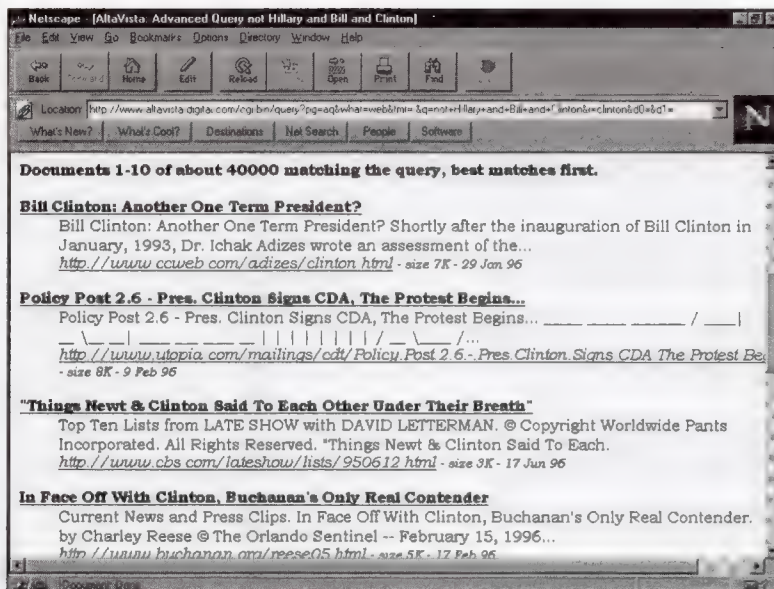
AND = and = &
 OR = or = |
 NEAR = near = ~
 NOT = not = !

As you start messing around with this stuff, here are two important rules to watch out for:

1. When you wanna use the NOT operator, make it the first operation in your expression. To find Bill C. without his old lady, type **not Hillary and Bill near Clinton** (see Shot 6.26). Don't waste your time typing **Bill near Clinton not Hillary**—that road leads to the error message Syntax Error (Bad Query). Why? Trust me, kid, yer just getting started. You don't even wanna *look* into that can of blood-sucking worms. (This is where the phrase "Ignorance is bliss" comes in.) Just put NOT first and keep movin'.
2. Try using parentheses around words and phrases. Parens work like barbed wire—they isolate the words that're inside from the operators that're outside. That's why "Big near Bertha and gun" and "Big near (Bertha and gun)" turn up different matches. AV figures out the phrases in parens before it works on the rest of the expression.



SHOT 6.25: Drawin' a bull's-eye on the General



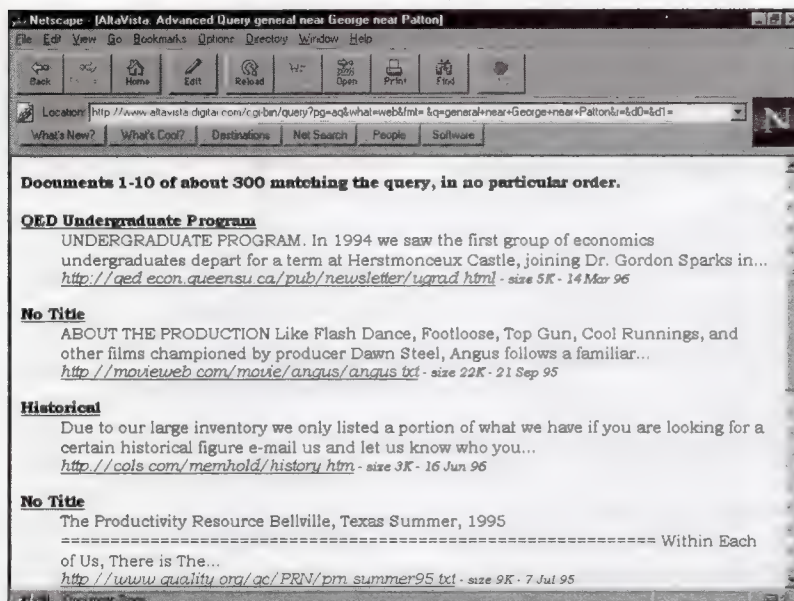
SHOT 6.26: And here I thought “not Hillary and Bill near Clinton” woulda led me to the Mustang Ranch

Wanna get good? It takes practice. Start now: Search for some really specific cool shit. Try to get less than 100 hits. Yeah, you’ll also get incoming syntax errors, probably a lot at first. So what. You just kicked ass on one mean topic, private.

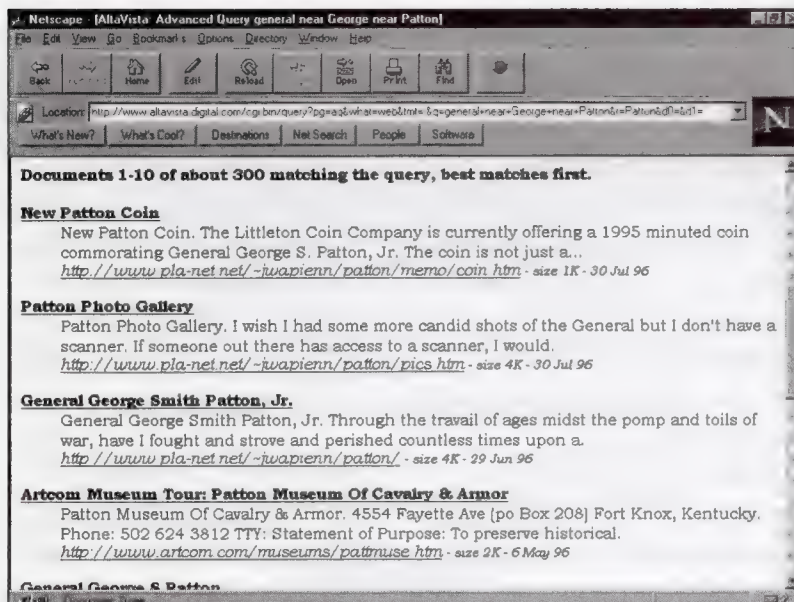
Closing Ranks

Here’s the gravy—how to be perfect. When your search finally comes back with its results, AV puts the sites with the most matches first, just like other search engines. Thing is, with Advanced Search, you can mess with the way AV ranks. The Results Ranking Criteria field is much cooler than it sounds (I’m gonna call it the “RRC” so I don’t gotta go shoot somebody before you finish this level). This is where you tell AV which words in your expression are the most important, kinda like the way you used that ^ character back at Excite.

This RRC is one serious tool. You can enter one or more words; just separate ’em with spaces. Now even when your search hauls back hundreds or thousands of results, you can make the most important ones rise to the top. Wanna see real power? Look at what happens to a “General near George near Patton” search (see Shot 6.27), when “Patton” gets tossed into the RRC (see Shot 6.28).



SHOT 6.27: The "unranked" General Patton results



SHOT 6.28: The much cooler "ranked" General Patton results

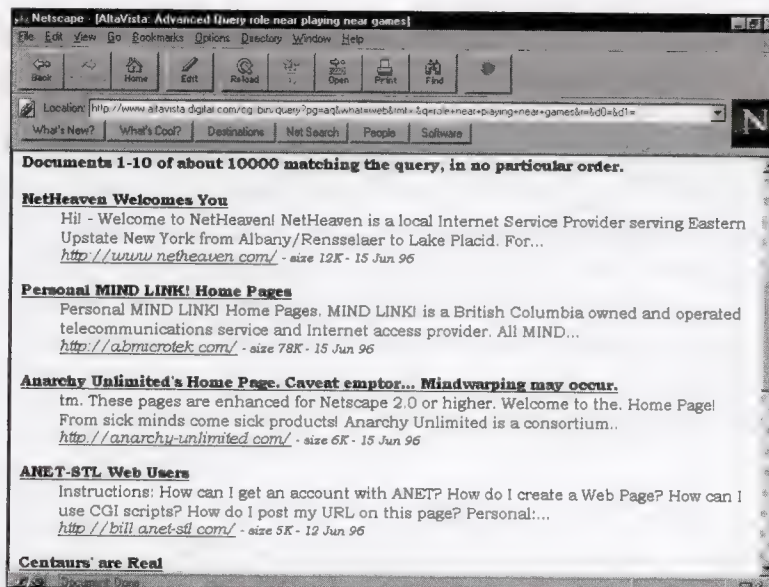
The Secret Operator

There's a secret to this field that most people don't even know about. You can actually use it as another kind of "operator" to target your search even more. Here's how it works: Most people only put words in the RRC that are also in their search string. Say they're looking for "role near playing near games," they might throw "role playing" into the RRC to make sure that RPG info ends up higher on the list. The trick is that you don't *have* to use one of your search words in this field; you can use a completely new word here to *filter* incoming matches. If you add the word "MUD," you bring MUD games to the top. Check out the huge impact this can have, as shown in Shots 6.29 and 6.30.

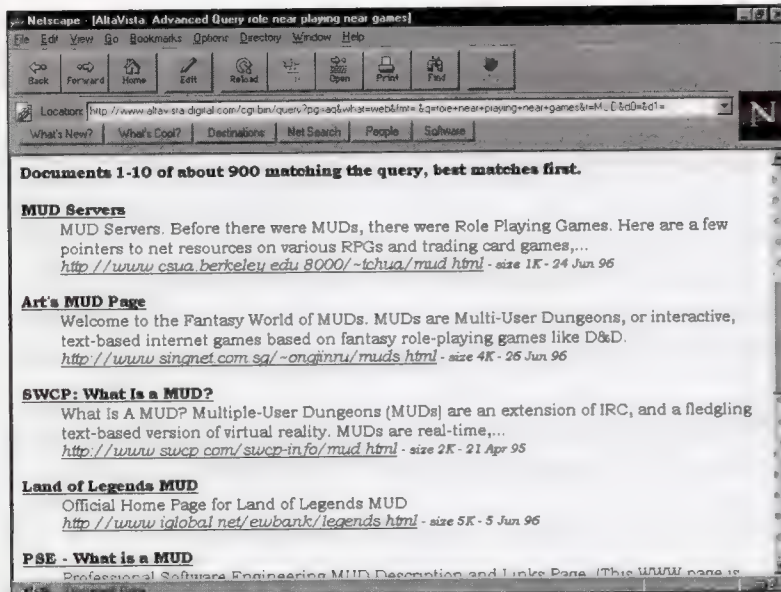
Pay attention to the RRC. After you use it a few times, you'll find that even with 2,000 results on yer hands, you can usually drag what you *really* need into the first 2 or 3 screens.

The Rest of the Story

Just like with a Simple Search, you can change how yer results are displayed by messing with the Display the Results pull-down menu. The one difference is that you get an extra setting when you try this from the Advanced Search page. As Count Only lets



SHOT 6.29: A "shotgun role near playing near games" search



SHOT 6.30: The same search with "MUD" in the RRC

you see how many sites you're gonna match without taking as much time. If yer stuck with a slow modem (especially 14.4K or under), this setting rocks. Run your search. If you get too many hits, make the search tighter 'til you get a set of matches you can deal with, then set Display back to Standard and run the search for real.

The last piece of AV's Advanced Search screen is almost always passed by, but it's probably the most important part of this page for beating down results overload. The "Start Date:" and "End Date:" boxes can save you tons of time if you use 'em right. Looking for info on Apogee's new game, *Blood*? Set up your search expression and click the Submit button. The buzz on this game is massive, so you know yer gonna turn up a lot of out-of-date info. The release date has also slid more than a year, so you'll probably match a bunch of sites that are real old. By setting the start date to a month back from whenever you run yer search, you're gonna get only the latest info. That's the kinda intelligence you want. And now that you made it all the way to the end of Level 6, that's the kinda info you're gonna score.

AV's Bottom Line

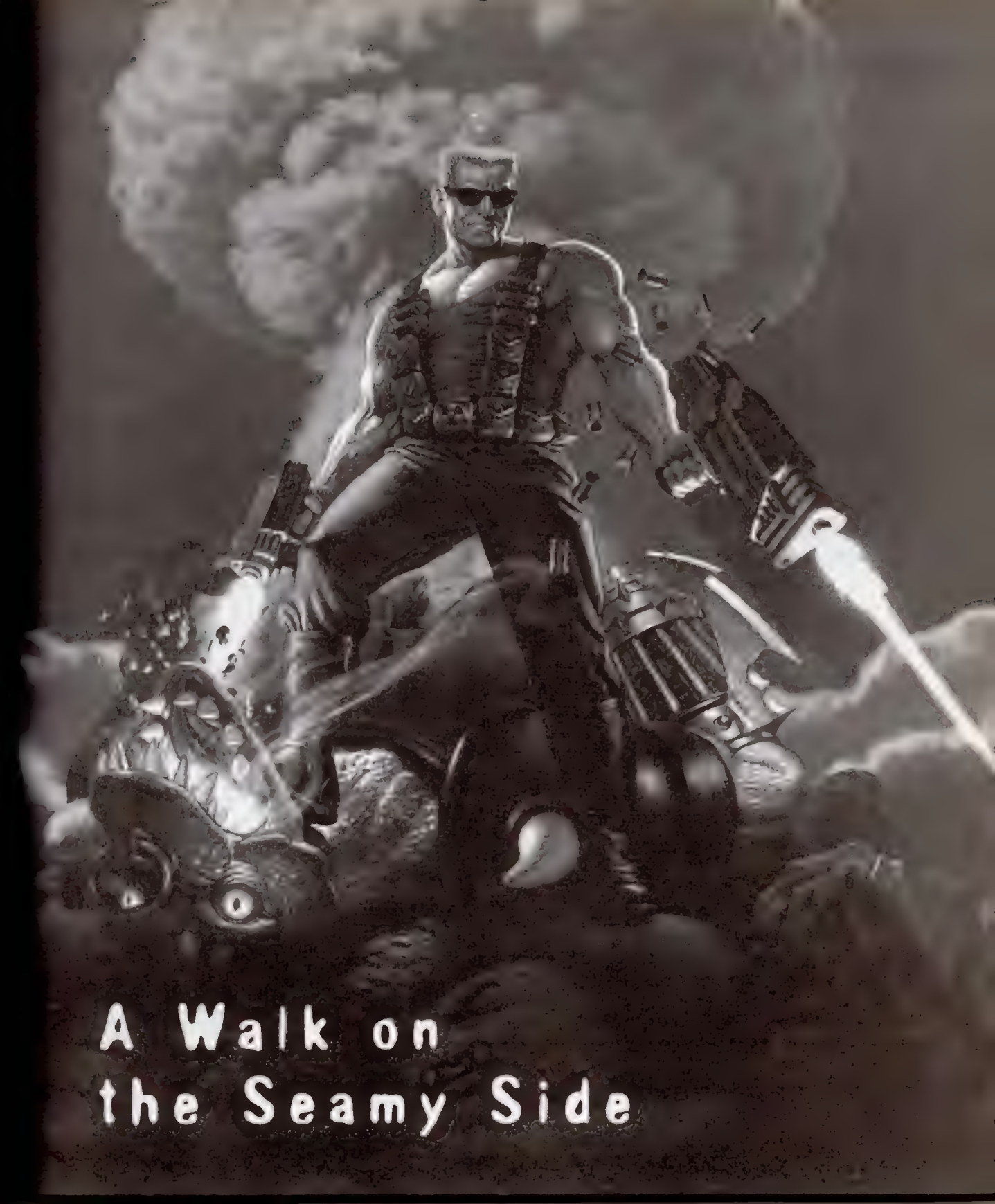
It's no secret that I think AV is one of the most important places on the Net. Believe it or not, this baby has *many* more features than I showed you. You can use it to search

for titles, links, images and sounds on sites, applets, and loads of other goods on the Net. If you wanna live and breathe AV, spend some time in its help files, then put it through its paces, try out bizarre searches, and keep firing 'til the barrel's red hot.



LEVEL

7



A Walk on
the Seamy Side

Everybody loves a psycho. Some of Duke's faves—Rambo, the Terminator, Ash—these aren't the kinda guys you want playing with yer fine china. When they help you frag 'n' bag a pack of pig cops, they're the best friends you ever had. But put 'em in group therapy and no one's comin' out alive.

The Net's a little like these hard guys—rough 'n' tumble. It's a great place to hang out, but you have to have the stomach for an occasional surprise, and you gotta know how to defend yourself. No matter how much hype you get fed about the Information Superhighway, don't forget that the Web, e-mail, Usenet, FTP, and Telnet—they're still pretty much a free-for-all that's played by adult rules—kinda like New York City, only with lots of downloadable shareware. You'll see more obscenities in chat rooms than you'da heard in Patton's war room, and that stuff is relatively harmless compared to some of the real badness you can find online.

Back in the the '70s, the Net was mostly home to rocket scientists and computer programmers who got their rocks off looking for typos in nuclear reactor spec sheets. Today, it's a little different. Spend a little time on the wire, and you better be ready to trip over:

- XXX-rated Web sites
- Computer viruses
- E-mail bombers
- Internet impostors
- Usenet psychos

Whaddaya gonna do, runt? Turn off your computer and crawl under yer desk? Dive into your modem and grab all you can? Duke sez pass on both these options and make the smart play instead. That means watchin' your ass and learning online self-defense. Make no mistake, scrub—you ain't in Browser Boot Camp any more. We're about to head out into the seamy side, and it's my job to get you back in one piece. I'm not gonna sell you a line and I'm not gonna pull any punches. So get out your plunger—after a few flushes of the Net's smellier cesspools, you'll learn real quick what's worth searchin' for and what's a waste of time. You'll also come out with a better idea of some of the places on the Net where dangerous pervs hang out, and what you gotta do to keep from becoming their next victim.

Once you've secured the perimeter against scumbags, get ready to go underground and snag a look at some of what's going on in the world of hard-core anarchists and high-tech crooks. Alright, ready for a ride through the sewer? It all starts with what most punks want to know about first:

SEX ON THE WEB

If you looked around for a few minutes, it'd be hard *not* to find online porn magazines, sites for porn stars, and massive XXX outlets selling online access to tons of grainy images and lo-res movies. You'd also find sites set up by an army of undersexed loners, showin' off their photos of naked celebrities, and other sites put together by genuine creeps busy taking out their personal problems in public.

Look, I ain't here to tell you whether you should or shouldn't blow the next 5 years of your life downloading "adult" JPEGs and QuickTime movies. If you've played Duke Nukem, you probably know how I feel about strip-joints. But that don't mean strip-joints are the right place for underaged punks. The Web can be a whole lot rougher than anything you've run into playing Duke Nukem 3D. Before you even think about wandering around these sites, understand the real risks you're taking.



THINK BEFORE YOU CLICK

The Web is like the Wild West, and not the way it looks in the movies, but the way it really went down—no laws, lots of dirtbags, actual danger. Don't go looking for sex on the Web expecting to just find *Playboy* pictorials and nude photos of Pamela Lee. Some of these Web pages are put up by guys who have their heads so far up their asses they can't sneeze without taking a shit. I'm talking about truly nasty sites. Sites loaded with shit that's illegal. Shit made by actual, honest-to-God bad people, and distributed by trash just begging to get incinerated. These are jerks you wouldn't want to meet on the street. Do you wanna spend even 2 minutes inside their heads? Think *real* good before you press that mouse button. Doesn't matter how old you are, there's some stuff you don't want to see even once.

HIDE YOUR CREDIT CARDS

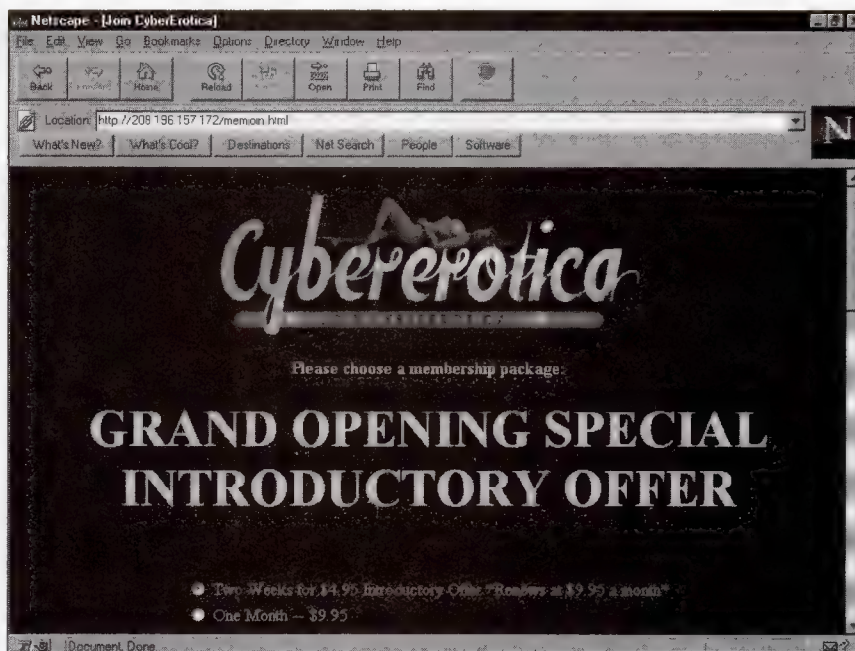
Most people who put together sex sites only have one thing on their mind: your money. Sure they hand out a few free samples, but it's all about getting you to become a paying member. This also ends up being one of the biggest barriers to most underage access—no credit card, no membership (see Shot 7.1). Let's start with the basics: Giving out your credit card number over the Net is a little like the most boring game of Russian Roulette you ever played—all the risk, none of the glory. And while yer thinking about the people who might find a way to *steal* your card number, don't forget who it is you're *handing* your card number over to. Last I heard, that nice Mrs. Stevens stopped working in order processing and Johnny "Big" Johnson took over in her place. Learn from Dick Morris: People in the sex biz can get real motivated when money floats in front of their eyes.

If you do sign up, be prepared to keep yer eye on the moving target: Lots of these places charge your credit card or phone bill every month after you join until you send out an e-mail letting them know you finally got a date.

KEEP PERSONAL INFO PERSONAL

The biggest rule of this road: *Whenever* you head out onto the Net, you gotta be careful not to hand over your phone number, address, e-mail address, age, or any other information about your day-to-day life to strangers. There are tons of jerks out there





SHOT 7.1: They're looking for a few good credit card numbers.

looking to get saps to hand over personal info so they can use that info against 'em. One of the many problems with most of these pay sites is that they make you fill out a form that includes your name, address, and e-mail address before you join. Great. Mebbe if you tell 'em your birthday and your shirt size, they'll send you a nice gift once a year. C'mon, you really want these guys to know where you live? If at all possible, keep your personal stats to yourself.

Even if you don't hand over your info, some of the stuff that's out there lets sites pick up info like e-mail addresses from people who visit, without their even noticing. There are some ways you can protect yourself—I'll cover one of 'em under "Hacking Off," later in this level, but don't lose the basic lesson: A lot of people dig sex on the Web because they think they're anonymous. They buy into an illusion of privacy they can't get down at the local video shop. Take it from the Duke—that illusion is bullshit. There are jerks out there making lists, and there are big databases where individuals and companies, hell, maybe even the government, are keeping track of how different people like to spend their time. You go joyriding, you can earn your way onto these lists. Maybe that just means getting a lifetime supply of junk mail and e-mail

The Top 5 Reasons the Web Is Loaded with Sex

Every chump knows there's tons of sex on the Web. Not every chump knows why. Luckily, this buddy of mine out in Matawan, NJ, just e-mailed me a list of the top-5 reasons:

Number 5: It's Point and Click-errific

Sex has been on the Net for years, but the volume got cranked way up a few years back with the release of the first graphic Web browser, Mosaic. Nowadays, any goon with a modem can grab a mouse and start up a serious relationship with their computer screen.

Number 4: Sparky Goes Arf!

The sex biz follows new technologies around like a dog in heat. When VCRs got big, porn tapes got huge. When CD-ROMs took off, adult CD-ROMs started raking in the cash. Same thing with the Net. There's big money to be made online, and these guys wanna reach deep into your wallet.

Number 3: World Wide Wankers

Sex sites can spring up anywhere in the world. This stuff is flying out of Europe and Asia faster than you can say "International House of Porn."

Number 2: Meet Shmoe Hefner

Just like it's easier than ever to find sex on the Web, it's also easier than ever to set up your own Web site and start sending out dirty pictures. You don't gotta be Einstein. Hell, you don't gotta be Hugh Hefner. You just gotta be some shmoe with waaaay too much time on yer hands.

And the number 1 reason there's so much sex on the Web...

Four words: "Millions of horny bastards!"

Demand drives supply, baby—and there's tons of demand.

advertising. Or maybe it means catching the attention of someone with a real problem—*bad idea*.

Bottom line: When it comes to sex on the Web, be a little paranoid—you'll live longer. And don't go looking for sex on the Web unless you're prepared and old enough to have it open its blood-shot eyes and look back at you.

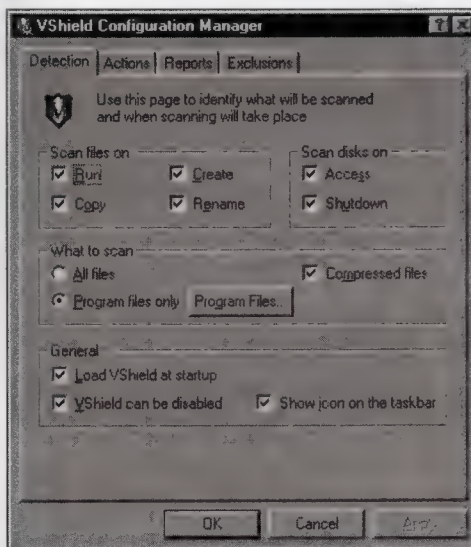
VIRUSES AND SAFE SURFING

Yeah, you probably heard of these suckers before. Question is, do you know what to do about 'em? First off, a little science to help you get a grip on how viruses spread:

Computer viruses are chunks of programming code built to screw around with different parts of your computer—your programs, documents, even your operating system. They're made by hackers, some of 'em just out for a laugh, others hell-bent on causing you grief. Viruses spread by latching on to other programs—other pieces of code. Your basic defense tactics start with finding and installing antivirus software that you can use to scan new files before you open or run 'em. These kinds of weapons are stored at Web sites like <http://www.shareware.com>. Two of the best are McAfee VirusShield (see Shot 7.2) and The Doctor AntiVirus for Windows 95. You wanna surf safe, install one of these programs on your PC and then scan any files you pull down off the Net that could carry a virus. Yer still not done, though—these clowns are always coming up with something new. You gotta keep one ear to the floor and make sure your antivirus software and strategies stay up-to-date. See, the old rules fall away just

as soon as you learn 'em. For those of you who can take another techno-blast, here's one recent example:

Back in the old days, you only had to worry about *programs*, not *documents*. (For the record, Duke sez documents include text, pictures, movies, and sounds.) Unlike programs, doc files didn't give viruses any place to hide. Then, not too long ago, someone unleashed a little beaut called the Winword.Concept virus. This virus attaches itself to Microsoft Word documents. Not everyone knows this, but Word documents can include macros written in WordBasic, Word's programming language. Didn't take long before some weasel wrote a



SHOT 7.2: Antivirus software like VirusShield can cover yer flank.



WordBasic virus that could hide out in Word docs and grab on to yer version of Word as soon as you opened up an infected file.

Good news is, as quick as these guys can come up with new viruses, other people are out there slammin' together programs to fight 'em off. For the Winword.Concept virus and other Word viruses, there's a file called scanprot.doc that Microsoft has put up free on the Web. If you have a recent copy of Word and you wanna keep it secure, go to <http://www.microsoft.com>, search for scanprot.dot, download it to your computer, open the file in Word, and follow the instructions. Easy.

E-MAIL HELL

E-mail (covered in Level 5) is great for setting up cross-country DukeMatches. It's also a real popular weapon for pissed off technoids, a way you can get virus-infected files, and another damn place for junk mail to pile up.

UNABOMBER LITE

Be a wiseass at the wrong time and you may get smacked upside your Internet account with an e-mail bomb. It don't happen too often, but you'll know if it happens to you. E-mail bombing usually means gettin' hundreds or thousands of e-mail messages you don't want jammed into yer e-mail mailbox. Your e-mail account quickly becomes worth jack. If your Internet Service Provider doesn't shut your account down right away, they may start billin' you extra for storing too much incoming mail on their server. And somewhere in your huge, new, totally bombed out e-mail collection, there's that college acceptance letter or message from some million-dollar contest you just *knew* was headed yer way. Too bad you can't find it without waiting 2 hours for all that e-mail to download, then searching through every stupid message. No easy job, especially when new mail keeps showin' up every 15 seconds.

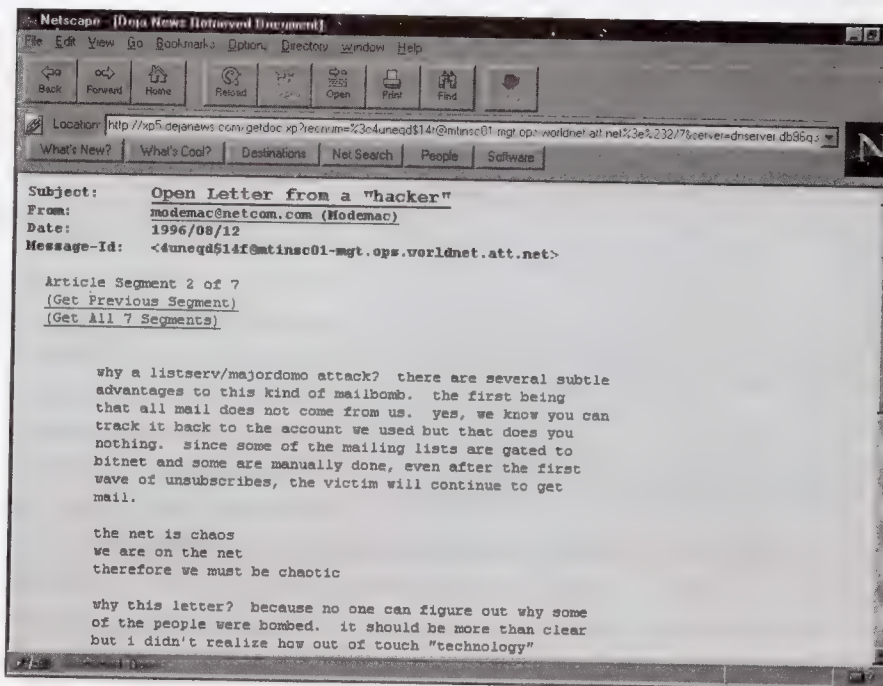


After a few minutes you'll be aching to bust heads. Problem is, most e-mail bombers know how to strike without leavin' a trail. They have to—e-mail bombing's against The Law. Best thing you can do is grab the phone, call up your ISP, and tell 'em what's going on. That ISP will then either give you a new e-mail address or cancel your account for a few days and make you sit and stew 'til the mail bombs slow down.

Even if you watch what you spout, you can still end up gettin' hit. A recent e-mail bomber went after a whole list of people, from Rush Limbaugh, to President Clinton, to the author of a book on parenting. (See Shot 7.3 for a look at the manifesto he sent out after the fact.) They'd all managed to piss this guy off without even trying. Sounds like he needed a few rounds of DukeMatch to work off some steam.

YOUR VIRUS IS IN THE E-MAIL

Another kinda e-mail bomb works more like a land mine. I already covered how viruses spread. Should be obvious that if someone e-mails you an attachment, and that attachment has a virus, you could get zapped. You should be OK tearing that attachment off your e-mail, but run a virus scan on it before you open the file up. Even smarter, get a virus scanner that checks everything you download, including e-mail, for mines. And be on the watch for friendly fire—just 'cuz that attachment came from an old pal, don't mean it's clean.



SHOT 7.3: The Unabomber (Lite) Manifesto

The Good Times Virus: Don't Get Played for a Jerk

If you're on the Net long enough, some sap is gonna send you a message warning you about a Good Times virus invented by this evil genius with an AOL account. This message screams that the Good Times virus is carried by e-mail. It sez that even just *reading* a tainted e-mail message can infect your PC. The guys who wrote this tell you to warn everyone you know, and then they laugh themselves sick thinkin' about you shooting that e-mail out in all directions. This is serious, hard-core, geek comedy in action. Here's the joke: There's no way to get a virus by just reading an e-mail. The only virus here is mental. It spreads by freaking people out. Keep cool, kid.

"NOBODY SENDS OUT SPAM . . . AND LIVES!"

Most mail "spamming" is a lot worse than a joke or an attack—it's marketing. "Spamming" is the word cybertypes use for sending out unwanted messages to lots of



DUKE SEZ

Where the hell did the word "spam" come from? Spam may be standard issue grub for yours truly while Duking it out on alien worlds, but to some, it's an empty, useless food, kinda like the spammed messages that get passed around the Internet. Some Net old-timers say this use of the word was pulled over from a Monty Python skit where "Spam" is said (and sung) over and over.

people. If it's Usenet spamming, this usually means *posts* (messages) sent to the wrong *newsgroup* (topic areas)—most of the time on purpose. If it's e-mail spamming, yer usually talking about messages that say "buy this piece of junk" or "join that stupid pyramid scheme." No matter what these messages have to say, they're all a pain in the ass

and a waste of valuable time you could be spending on your circle-strafe technique. If you get spammed, gun a reply to the loser who spammed you saying you wanna be taken off their list. If this doesn't work, try to get in touch with the postmaster at their site, or see if your ISP can help. If the spam continues to pile up, you may wanna change yer e-mail address.

NET IMPOSTORS

One of the things some people dig most about the Net is that they can pretend to be whoever they want. Eight-year old kids talk real tough to 25-year olds. Hard guys show off their sensitive sides in Usenet posts and chat sessions. But you also get serious sleazoids, much more twisted and dangerous than yer average e-mail bomber. These guys are out to sucker and even hurt other people by pretending to be something they're not. When that 15-year-old chick starts talkin' about all the stuff she does in her BVDs, you don't know whether she's a hot babe, or some 55-year-old pot-bellied pervert, lookin' for jailbait.

IMPOSTOR HANGOUTS

Gotta know how your enemy works: Yeah, these creeps can show up anywhere—e-mail, Usenet, even on the Web—but they're best known for hangin' out in online chat groups and on Internet Relay Chat (IRC), just waiting to talk nice to someone who hasn't been warned by Duke. Put together real-time discussion groups for horny big mouths, computer geeks, and curious teens, and somebody's headed for trouble.

Online Chat Groups

Every online servic—especially AOL and CompuServe—is real proud of its chat rooms. These are online areas where loads of people talk to each other one-on-one or in



DANGER ZONE

The best way to keep from getting messed up is to stay frosty and look sharp. One more time: Don't ever give out personal info like your age, full name, address, or phone number. Doesn't matter how much you've written back and forth—you don't know them. It's like this: If anyone asks you to meet them somewhere, tell 'em no and leave 'em in the dust. If you're under 18 and you think someone's tryin' to mess with you, get an adult you trust involved—hopefully one of yer parents. Depending on where you are on the Net, you may also want to get in touch with your online service, ISP, or chat group administrator and get this weasel off your back. If things get serious, call the cops. Look—real people get really hurt by these scumbags. This is as serious as it gets—*don't get fooled.*

groups—it boils down to real-time typing sessions. Most online chat areas are organized by age group or topic. Although you'll find jerks everywhere, a lot of the worst trouble goes down in the Teen areas—true-life horror stories about kids who get kidnapped after meeting up with some psycho who promised fancy clothes, concert tickets, money, or just friendship.

Internet Relay Chat

Like the online chat rooms in AOL and CompuServe, the Internet has its own chat options. The best of these is IRC. To access IRC you need IRC software—free to download from places all over the Net, and handed out by many ISPs. What makes IRC different from chat on AOL or CompuServe is that most Net chat goes unmoderated—no one's out there checkin' the messages to make sure they're squeaky clean. No surprise that Net impostors crawl around in these pits.



Net chat's too damn ugly and raw for most people, especially people new to the Net. If yer dying to give it a try, do yourself a favor and *monitor* any chat group for a while before joining in. By checking out that channel first, you can save yourself some pain down the road.

USENET NUT JOBS

We covered Usenet back in Level 5, so you should already know what it is—the Net's bulletin board, with newsgroups coverin' just about everything legal and illegal on the planet. You got a question, someone out there probably has the answer. Not bad. The dark side is that Usenet is also yer one-stop shopping center for just about every kind of scumbag on the Net. Spend some time reading Usenet posts and you'll probably see:

- ☢ Flamewars: Take one smart-ass or two idiots who don't agree on something. Shake hard for 2 minutes. Then watch a Usenet newsgroup burn into an endless run of personal attacks between these two jerks and any other nimrods who feel like switching on their flame throwers.

- Newsgroup flooding: This terrorist act—not too different from spamming—involves shootin’ hundreds of copies of the same message out to a newsgroup. When someone tries to read one of the group’s threads, the same message shows up over and over. All real posts get drowned out by the noise.
- Forgery campaigns: Usenet is *made* for impostors—it’s easy as hell for people to take on bullshit identities in their Usenet posts. Forgery is often used by jokers looking to start up Net riots or give someone else (whose address they’re using) a bad name.
- Fake posts and robots: There really ain’t a name for ’em except maybe AI impostors. These artificial intelligence programs join existing newsgroups and also start up new newsgroup threads. When people respond, the program pulls info from the replies and posts more messages. A lot of times, no one ever knows the “user” wasn’t even human.

Usenet is also a back alley for all kinds of riffraff looking for an inexpensive way to share their brain disease with the world. Partly ’cuz Usenet has a long pro-free speech history, partly ’cuz it’s cheap to use and hard to track, Usenet newsgroups have become one of the favorite comm devices for Nazi sympathizers, racists, gay-bashers, anarchists, terrorist advocates, druggies, and black marketeers.

Some of these nut jobs start their own newsgroups and fill ’em up with goof-ball propaganda. These newsgroups are often more of an outlet for insanity than anything else. The guys I’d really like to see drop-kicked over Der Fuehrer’s grave are the ones who bust into any damn newsgroup they want and start screaming their crap out in all-capital letters. These thugs are lucky I’m busy taking down alien goon squads.



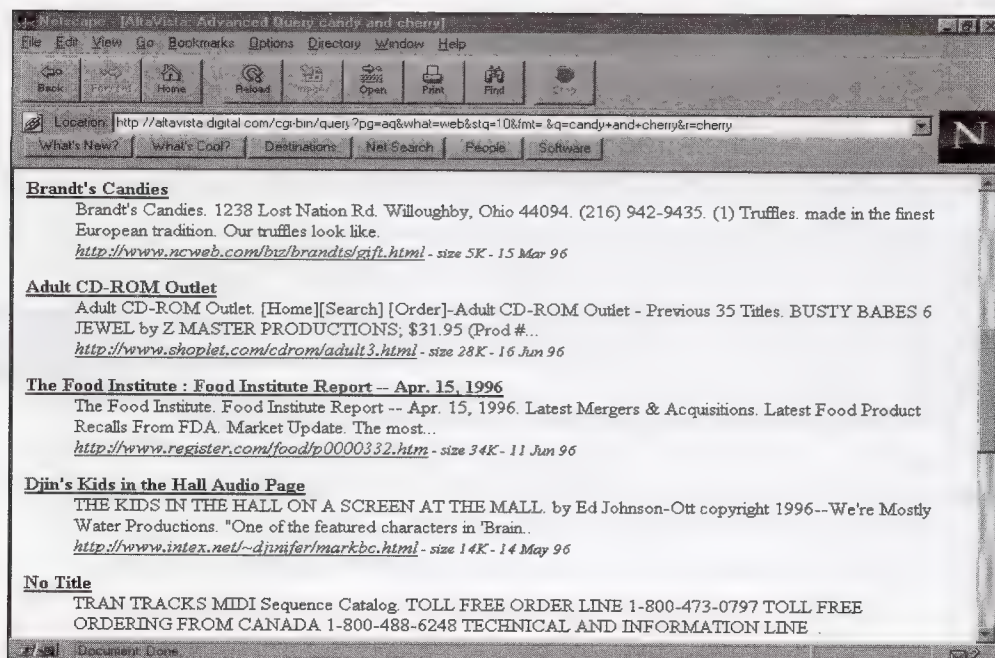
Treat Usenet the same way you’d treat Internet chat—keep your personal stuff to yourself and don’t take any stupid chances. Check out Level 5 for the last word on surviving flamewars and building “kill files” to block out repeat offenders.

AVOIDIN' NET TRASH

You should be startin' to get the idea that the Net has its share of mean streets. Whether or not you're looking for it, yer probably gonna end up with some of the Net's seamy side on yer screen. Say you want info on sweets. You get on the Web, find a search engine, and type in some keywords like "candy" and "cherry." Not all the results are gonna be pure (see Shot 7.4). You may get links to a few XXX-rated porn sites, or to a hacker site that uses *bon-bon* as a term for breaking into company firewalls. The government can't do much to make the Net safe for prime time, but that don't mean they haven't tried.

UNCLE SAM TRIES TO CENSOR THE NET

Early in 1996, Congress passed and the Prez signed the Telecommunications Act of 1996. This bill was huge. Among other things, suddenly cable companies could get



SHOT 7.4: What you might find searching for "cherry" and "candy."

into the phone biz and phone companies could get into the cable biz. If you think this ain't a big deal, talk to me about it in early '98, when the full-on impact starts to hit.

But the part of this bill that pissed people on the Net off most was the CDA, or Communications Decency Act. The CDA banned "any comment, request, suggestion, proposal, image, or other communication which is obscene or indecent knowing that the recipient of the communication is under 18 years of age." Sounds almost sane on the surface, 'til you switch on yer brain.

Like I've been tellin' you all along, the Net isn't beamed into your living room from NY and LA—this baby streams out of thousands of different computers set up all over the world. Even if the government *could* track all this incoming flack, they couldn't knock it down without also blowing away big chunks of your freedom of speech and killing off most of the good stuff that makes the Net worth a damn in the first place. While we're at it, who exactly gets to define what "indecent" means? And since anything sent over the Net *could* wind up in the hands of someone under-18, don't that mean that *everything* on the Net would have to go PG-13?

Most people on the Net were used to typin' what they thought without worrying about jail time. The CDA got 'em real scared. The day the bill passed, a bunch of groups grabbed the brakes and took the government to court. At the same time, tons of people on the Net let the press and their congressjerks know just how they felt. And to give it a real '90s feel, a huge number of Web sites had their backgrounds turned black in protest. Yeah, I remember it well—it was kinda like nighttime in the middle of the day.

In June, a Philadelphia judge ruled the CDA was unconstitutional. Damn straight! 'Course the government sent it back into appeal, so this bastard still ain't dead, but at least for today, the Net's still covered by the First Amendment.

If you care about any of this stuff, here are some sites you can check out for more info on the war in the trenches (see Shot 7.5 for a sample):

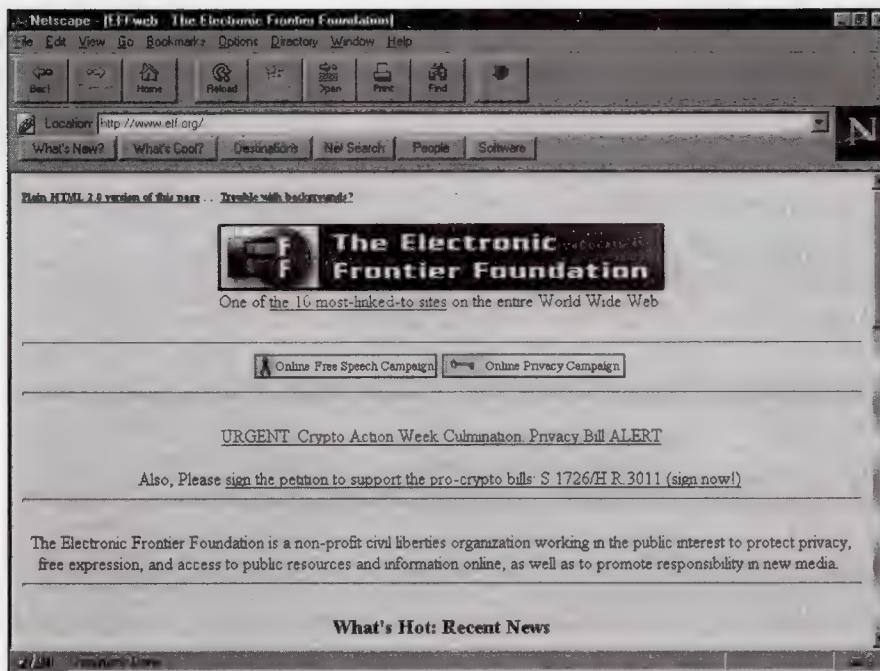
WHAT	WHERE	WHY
Communications Decency Act	gopher://gopher.panix.com:70/0/vtw/exon/legislation/s314.final	See what pissed the Net off.
Telecommunications Act of 1996	http://www.bell.com/legislation/s652final.html	Read all about the T-Com Act of 1996.
FCC Home Page	http://www.fcc.gov	The FCC enforces the T-Com Act.

WHAT	WHERE	WHY
Electronic Frontier Foundation	http://www.eff.org	The EFF fights the good fight.
Internet Censorship Worldwide	http://www.epic.org/free_speech/censorship	Lists governments' and online companies' censorship efforts.
Why the CDA Sucks!	http://www.isc.rit.edu/~sab0276/stv/cda.html	'Nuff said.

ONLINE SELF-DEFENSE

If you're looking for ways to keep this stuff off your computer, here's a couple of things you can do to control the flow:

- 🔒 Get filtering software—fancy programs that filter information as it streams into your PC and let only relatively clean stuff make it to your computer screen. I'll show you a little more about these programs in a sec.



SHOT 7.5: The EFF is on the front lines of this war.

- ☛ Stick to Web directories and search engines that give you a better idea what each link leads to, instead of just handin' out URLs (covered in Level 5). Magellan is one of the best at this job.
- ☛ Pay attention to what's goin' on with Web-site rating systems. A lot of people on the Net hate government censorship. The smart ones are looking for better ways to use computers to track and sort this stuff.

Filtering Software

Filtering software, like SurfWatch (see Shot 7.6), scans Net content before you see it. You can set most of this software to block out whatever kinda stuff you don't want to show up on your screen. Here's what it's usually used to stop:

- ☛ E-mail, Web pages, Usenet messages, or open chat areas with explicit material.
- ☛ Specific Internet domains or Web pages that have been nailed down as "adult-only."



DUKE SEZ

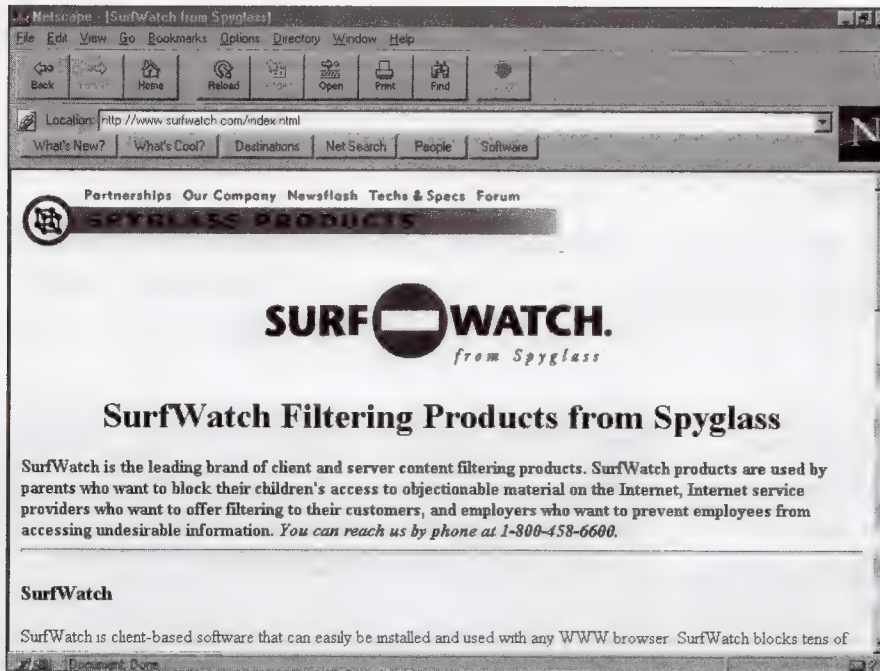
You may already have what you need to set up a Net blockade—Internet Explorer 3 from Microsoft has a built-in "Content Advisor" that'll let you adjust what kinds of Web sites that the browser shows. Slider bars for language, nudity, sex, and violence can be set to one of four levels. Level 0 is the weakest; Level 4 is the strongest.

You got kids—you need this stuff.

There's tons to choose from. Here are some of the bigger filtering software companies around. Most of these guys provide a working demo or timed-out trial software online for download. Give 'em a try—they can't protect you from all the jerks and lowlifes, but they *can* shield you from some of the stuff these guys send out.

COMPANY	SOFTWARE	WEB ADDRESS
Spyglass	Surfwatch	http://www.spyglass.com/home.html
Solid Oak Software	CyberSitter	http://www.solidoak.com/index.html-ssi
Trove Investment Corp.	Net Nanny	http://www.netnanny.com/netnanny
Microsystems Software	CyberPatrol	http://www.cyberpatrol.com

COMPANY	SOFTWARE	WEB ADDRESS
Les Logiciels Machina	Infoscan	http://www.machinasapiens.qc.ca/infoscanang.html



SHOT 7.6: Spyglass shoves a cork in the flow.

A Word to the 'Rents

If any of you grunts out there have kids, let me tell you what I told my neighbor Marty Gersa when he bought *his* kids a computer. I said, "Gersa, you wuss, just remember what a jerk you were when you were a kid. Remember the *National Geographics*, the beers in the woods, the stacks of chick magazines you stole from your brother, the pictures you tore from those magazines and sold to other kids in school for 2 bucks or a pack of smokes? You got away with whatever you could. And so will *your* kids. Duke sez, the secret to having good kids is taking some damn responsibility as a parent. Pay attention to what yer kids are doing. Install filtering software that locks out unapproved sites—unapproved by you, not by someone who don't know your kids. Protect 'em 'til they're old enough to protect themselves. And don't let teachers or senators or preachers do what *you* ought to be doing. Take some responsibility, Gersa, you damn wimp."

HACKERS, CRACKERS, AND PHONE PHREAKS

Alright, so you're all set to fight off the pervs and psychos. Time for a look at the *real* underground. A big chunk of that underground doesn't give a damn about you—they're too busy shutting down ISPs, messing with the CIA's Web site, and generally crankin' away beneath the surface, trying to get what ain't theirs and go where they aren't wanted. Some of these guys build those viruses I covered a few pages back. Here's a few of the other ways they like to spend their free time:

HACKING OFF

Hackers and crackers get their kicks trying to break into other people's stuff. Many of their favorite targets are Web sites set up by companies and government agencies who rushed to get-with-the-'90s and threw themselves all over the Net. These chumps were often in such a hurry to get on the Web, a lot of security issues were forgotten or placed on hold. Hackers will eventually make their way to many of these spots and give it the old college try.

A lot of these hackers are damn good at breaking into other people's sites without getting caught. Some company sites get hacked and nobody even finds out. Sleuth hackers break in, look around, don't see anything they like, then take off. Some of these guys could care less about the contents; they just trash the site's file system or fill up everyone's e-mail with some random nasty messages, then slip away leaving a mess. Their weapon of choice isn't a devastator or a truckload a pipe bombs; it's operating system commands and a lotta time.

FTP PIRATE SHIPS

Some hackers and software pirates who need to transfer software to other people without leavin' a trail, store pirated software at other people's FTP sites.

Here's one way this works: The pirate fires up his FTP software and logs into an FTP server as an anonymous user. Then he fishes around lookin' for a directory where UNIX writes temporary information whenever necessary. This directory has to exist and can't be deleted by a user or sysop. If this "anonymous" user can get to this directory, he's set. The hacker then copies the program they wanna hand out into the directory, then he logs off.



DUKE SEZ

Stolen software's been part of the computer biz forever, but in the U.S., copyright laws and serious licensing issues have kept it down to a dull roar. Overseas, 'specially in China and Taiwan, this ain't the case. Telnet's often used to upload software picked up in the U.S. Software piracy is such big money in China that something like 70% of the software used over there is stolen. And they don't even have to screw around downloading hundreds of megs of stuff—any piece-of-shit computer merchant at a flea market will sell 'em a CD packed to the gills with a fair assortment of the world's most expensive software for the price of a coupla Big Macs.

Next, this guy fires off an e-mail or two to specific Warez Web sites ("Warez" is hacker lingo for stolen software). The guy in charge of the Warez site adds the IP address for the FTP server to his "big list" of FTP sites to checkout. See, if the perp can get to the temp directory, then everyone else can too, so the stolen software is ripe for the pickin'.

Keeping Your Browser Secure

Some hackers are out to rip you off and grab any info you send out over the Net—could be your credit card number, could be a personal e-mail. Navigator 3 and Internet Explorer 3 both have built-in security features, like unique passwords and personal certificates. The main catch with their security passwords and certificates is you gotta know to turn them on. In Netscape, click on Options ► Security Preferences to begin settin' up security. Check out Netscape's security information page at http://home.netscape.com/comprod/products/navigator/version_3.0/index.html for more info. Microsoft Internet Explorer 3's security features (click on View ► Options ► Security) are spelled out for you at <http://www.microsoft.com/ie/most/howto/secure.htm>.

TELNET TROUBLE

No one ever said Telnet was pretty, but most hackers, crackers, and other geeks wouldn't trade it for the Swedish Bikini team. Telnet is one of the oldest programs for Net hacking and it's still one of the most powerful. When you run a Telnet program (see Shot 7.7), you can connect as a *dumb terminal* to another computer that supports



SHOT 7.7: Telnet ain't pretty, but neither is a 6-pack of pipe bombs.

Telnet. This includes mainframe computers—big whomping jobs that'll chew through thousands of requests from different users without blinking an eyelash.

A lot of companies, government agencies, and universities still use these big suckers for everything under the sun. These computers talk UNIX to their users—the hacker's operating system of choice. So what's a pock-marked, prepubescent hacker doing messin' around with Telnet and mainframes? Moving where they ain't wanted and taking what they can. See, Telnet can open up a window to a larger, more important computer for some government agency or company division or university department.

PHREAK-A-ZOIDS

There's a special kinda hacker out there who just loves to see what kinda free phone calls they can get away with. These tough guys are called "phone phreaks" or just "phreakers." When they're not in some alley hackin' a phone to death, they get their R&R on the Net, bragging about their latest phone scam success. You'll run into a lot of their step-by-step, how-to messages on the Net. Don't get suckered into thinkin' about

doing it yourself. TPC (The Phone Company for all you poor saps who've never seen the '60s coolest paranoia movie—*The President's Analyst*) knows all about these

scams, and they'll put your ass between two live wires if they catch you at it.



DUKE SEZ

One of the original phone phreaks called himself Cap'n Crunch. His name comes from a toy-whistle that once got sent out in cereal boxes. Some early phone phreak discovered that this toy produced a perfect 2600-cycle tone—one of the phone phreaks best friends. (Among other things, Cap'n Crunch now builds Web sites out of Northern California.)

See, phreakers do more than just get a few calls on the house. They're also messing around in other people's phone lines, creating cellular phone connections using stolen account numbers, teleconferencing, and screwing with or canceling

the accounts of anyone they wanna mess around with. The amount of techno-magic phreakers can pull off would blow your mind. Most of it is based on "boxes"—small devices that each perform a certain function. Each box has a different color; that's how phreakers know which one does what. Here's a run down on a few:

- Red box: The most common phreaker tool, this baby makes a sound that fools a pay phone into thinking someone's dropped in some change.
- Blue box: Seizes phone switching equipment, allowing phreakers to screw with phone lines and place long distance calls.
- Black box: Places a special capacitor across a phone line. TCP can't tell when someone answers a phone call.

HACKER SITES

So much crazy stuff is happenin' out there on the Net, that there's no way one level can cover it all. If you want another look at the underground, you can visit these sites, but hey—watch yer step and make sure you don't piss these clowns off:

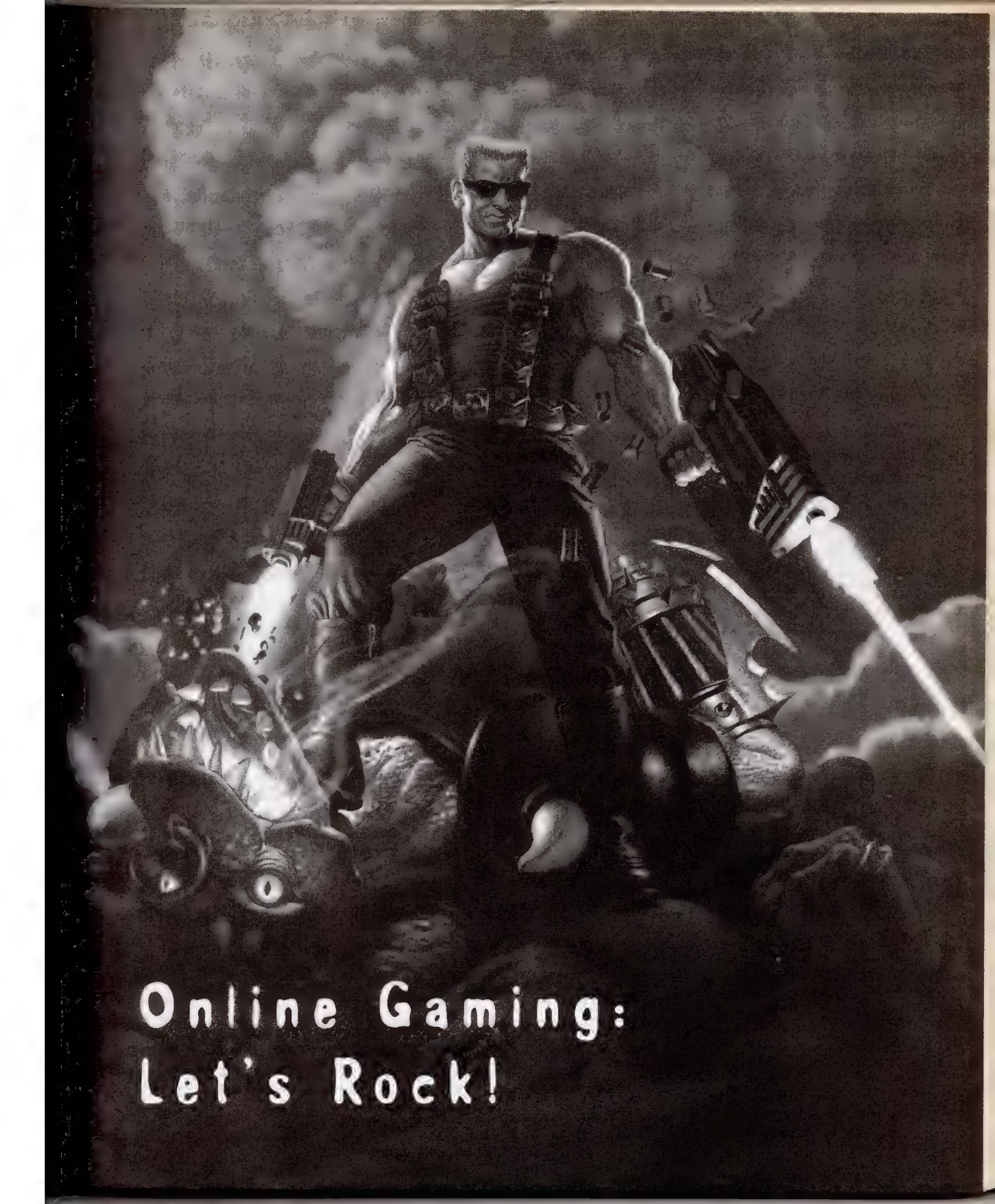
WHAT	WHERE	WHY
The Hacker Quarterly	http://www.2600.com/2index.html	THE Web magazine for the hacker community.
alt.2600 hacker's FAQ	http://www.lib.ox.ac.uk/internet/news/faq/archive/alt-2600.faq.html	The biggest friggin' FAQ you ever saw on all things "phreaky."
Privacy FAQ	http://www.cec.wustl.edu/~cs142/articles/PRIVACY/privacy_and_anonymity_on_the_internet-part1	Every thing you wanna know about "privacy" on the Net. Learn how shady scum stay outta the light.
Silicon Toad's Hacking Resources	http://www.netwalk.com/~silicon/episteme.html	One of the best places on the Net for all kinds of info on hacking.
The New Hacker's Dictionary	http://www.ccil.org/jargon/jargon_toc.html#SEC22	A HUGE dictionary of just about every techno-geek term used in the computer biz.

ALRIGHT ALREADY—BRING ON THE GAMES!

Hey—no need to scream, man. Just turn the page and get ready for the good stuff.



LEVEL 8



Online Gaming:
Let's Rock!

If you've played Duke Nukem 3D, you know I always snag what I need as I go—grabbing a jetpack here and a ripper chaingun there. But that don't mean I start each game empty-handed—I got my bullets, and I got my boot. I use 'em both to score a quick upgrade to more powerful weapons like a pack of pipe bombs.

Alright—time to put out yer hand, punk—the game's about to start and Level 8 is your free clip fulla ammo. Sure, some of the Web resources I'm gonna cover here will have moved or shut down by the time you get to it. And yeah, a few of these screenshots won't look much like what you're gonna see when you crank up yer browser and check this stuff out first-hand. But it don't matter—this level is still gonna set you up solid. That's 'cuz I've made sure to target info and addresses with relatively long Net-lives so you'll have all the leads you need to hit the ground locked and loaded. Just make sure ya don't shoot yerself in the leg on impact.

Use this briefing to stake out the territory and get yerself in position. Then take what you learned in Level 6 and start regular scouting missions—that'll keep you ahead of the curve long after these pages have decomposed.

Before you jump in that chopper, chew on another cigar and listen close. If you got a sharp rock nearby, you can slice Level 8 in two:

- First half's gonna show you where you can grab all kinds of files and info online—from shareware games to user-made levels, to FAQs, hints, and outright cheats. I'm talking about some of the best sites on the Web. You got a taste of this stuff way back in Level 1, but now it's time to grab that fork and knife and start chowing down on the main course.

- ❖ Second half of this level pulls multiplayer online games into the crosshairs. Online gaming's been around for years, but in the last couple of months the lid got blown waaay the hell off this sucker. I'll tell you where things are and make sure you know what you gotta know to dive headfirst into the never-endin' fragfest.

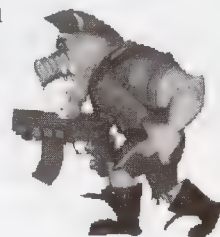


KICK-ASS TIP

You've probably put a lot of time in on single-player games. From this point on, think of those single-player games as drills, training exercises, and field practice, all designed to get you ready for the Big Fun—multiplayer combat in the online world. When you're sittin' between someone's double-barrel and another guy's RPG, those alien S.O.B.s are gonna seem like old friends. Thing is, if you really wanna kick some world-wide ass, you're gonna have to get yer hands on some tactics, skills, and strategies that work on living, thinking humans, not just computer-controlled bad guys. No worries—that good shit's waiting for you in Level 9.

THE BEST STUFF ON THE WEB

Sitting at my desk in this bunker, I can get at over 2,500 computer game-related links from just one Yahoo page (http://www.yahoo.com/recreation/games/computer_games). More than 750 of those links lead to pages for 3D games, and well over a hundred of that 750 are links to sites about me and my kick-ass first-person shooter. Hey, I'm not braggin'—you already know Duke's the greatest. I'm telling you this to make sure you're clear on how to approach game sites on the Web: The question ain't where to go—it's where to go *first*. And I'm the guy with the answer, baby.



GETTING READY TO CHOW DOWN

Once you start scoping out all the butt-kickin' bytes they got waiting for you on the Web, you'll be dying to start downloading. If you went through Level 4, you should

**DUKE SEZ**

Level 7's section on viruses is required reading, kid—I get real unhappy when people trash their hard drives on my watch. Don't piss me off.

have already downloaded a browser or two. And if you made it out of Level 7 in one piece, you should already know how to stop viruses from screwing up your files.

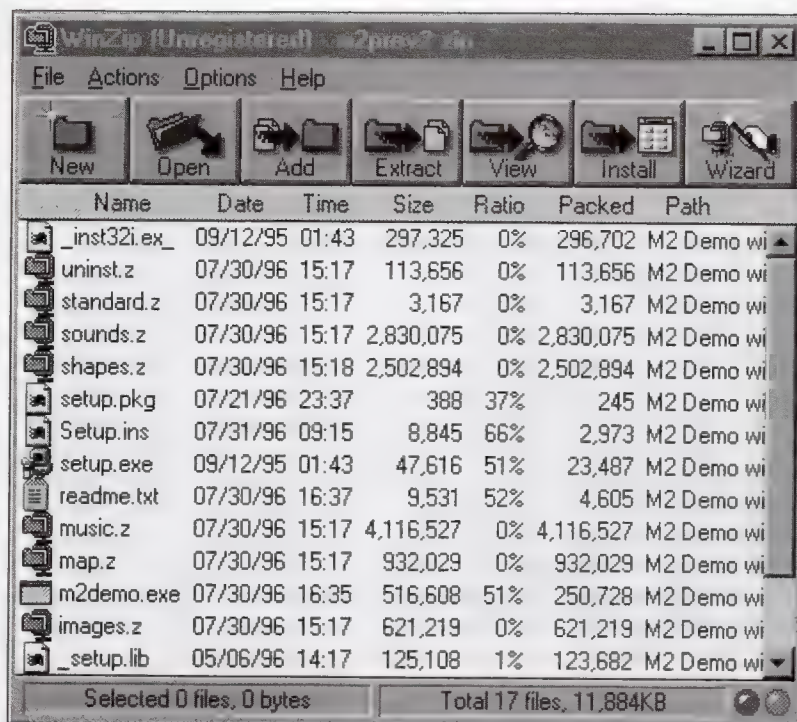
Before you pull down

all the games you can grab, here are a coupla other downloading basics you gotta keep in mind:

- ☛ Most Windows 95 games often store their files in more than one folder. This can make removing programs that yer bored with a real drag. That's why Windows 95 comes with a built-in Uninstall feature that lets you completely remove programs from your computer without jumpin' through mental hoops. You'll find this feature at Start ► Settings ► Control Panel ► Add/Remove Programs. (Bad news is, DOS games have to be deleted manually. Good news is, most DOS games are a little less aggressive about tossing their files all over yer drive.)
- ☛ Almost all of the games you grab online will come compressed to cut download time. Some will be "self-extracting archive," others will be "zip" files. You can decompress self-extracting archives (their file names usually end in ".exe") by double-clicking on them. For zip files (they usually end in ".zip"), you need "unzipping" software, like WinZip by Nico Mak Computing (see Shot 8.1). Download the latest evaluation version of WinZip from <http://www.winzip.com>.

HERE COME THE GAMING SITES

Most of these sites say they're the biggest, the best, and the most popular. Truth is, they all rock, that's why they made my list. This is where yer first clip of bullets comes in—I'm giving you a starter pack of sites at or near the center of the online gaming universe. Check 'em out. Compare speed, content, ease of use, look, and search engine (for those sites that got one). Then try to settle on some sane number of places and go back to 'em on a regular basis so you can get an idea what they're trying to put together. But remember, this stuff changes so fast there ain't no good reason to start thinking



SHOT 8.1: WinZip—get it.

that you owe loyalty to any one site. It's a surfer's market out there—these Web sites gotta keep earning your attention every damn day.

OK, kid—time for action. Start up a browser and follow along as I show ya some of the hot spots.



DUKE SEIZ

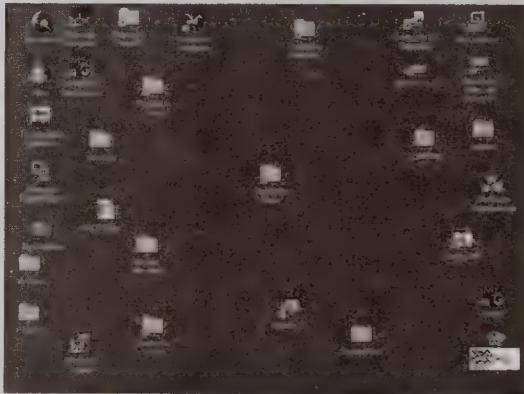
I didn't throw any homemade sites into this list 'cuz there's no real way to know which ones are gonna stick around for long. That don't mean you shouldn't hunt some down. A lot of times, fan sites have info and files that more official sites aren't ready to pass around.

Happy Puppy
<http://www.happypuppy.com>

For my money, Happy Puppy's the number one place to find games and things game-related on the Net. It may be dog ugly (see Shot 8.4 for proof, if you don't believe me),

Keeping Yer Hard Drive in Line

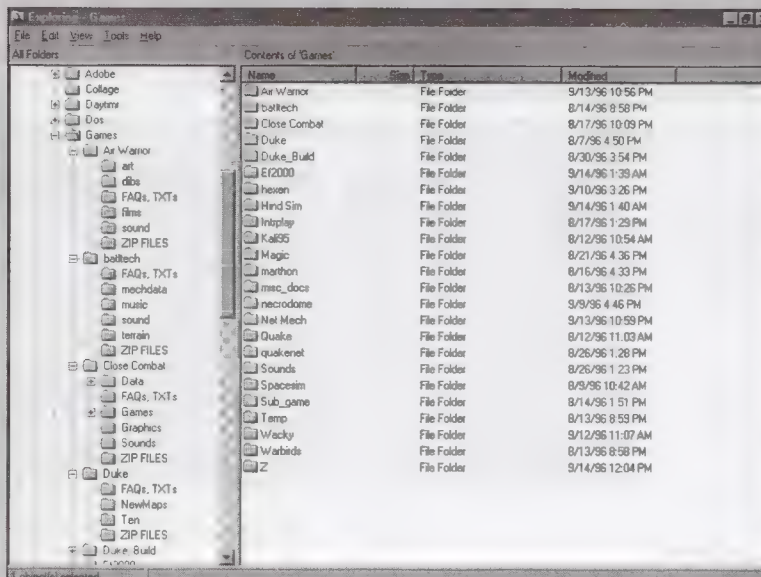
When you're getting ready to start downloading a lot of stuff, you gotta figure out how you're gonna store all the shit you're gonna grab, or you could end up in one helluva mess (see Shot 8.2). You'll need a good place to store the .zip and .exe files you pull down from



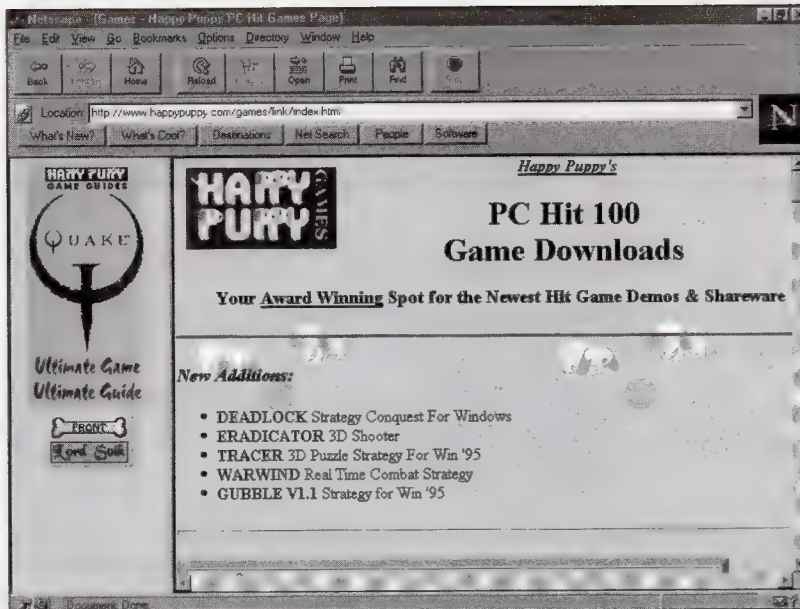
SHOT 8.2: One week on the Web and your PC may end up lookin' like this.

the Web, and a better place for storin' games once you install 'em.

Do yourself and yer PC a favor and separate your games from everything else on your hard drive by creating a directory just for games. Call it GAMES so you won't have any problem figuring out what's in there. Then throw in a subdirectory for each game (see Shot 8.3) and you'll know exactly where everything is when the shootin' starts.



SHOT 8.3: See the ZIP FILES and FAQs, TXTs subdirectories? Maintaining this kinda organization is one of the less-glamorous parts of turning yourself into an online killin' machine.



SHOT 8.4: An interface only a mother could love—or an online gamin' lunatic!

but this hound digs up *all* the goods, shakes 'em down hard, and then drops 'em on your doorstep like fresh kill. In addition to shareware and demos, the Puppy barks out game biz news and rumors, reviews, FAQs, and cheats—yer biggest challenge is gonna be making sure you pull yourself away in time to actually play a few computer games.

Some newcomers have no patience with the Puppy's "aaaah, just throw it over there" design. If you want new games NOW (and hey, who doesn't?), click on one of these:

- ☛ Happy Puppy's Top Ten Downloads: This spot has each week's most popular shareware and



DANGER ZONE

Some people think Happy Puppy's got a few too many damn bells and whistles for its own good. More than one wimp PC has fainted while trying to navigate its way through some of this stuff. If you get tired of getting zapped, look for a site that takes less overhead, like Games Domain, covered in a sec.

demos. I like to drop by every 7 days or so and make sure I catch all the biggest waves.

- PC Hit 100 Demos and Shareware: This is the Big List—one of the very best places anywhere on the Web to snag the gold.

Happy Puppy also has 2 sections set up just for multiplayer gamers:

- Multi-Player and Networkable Games: Lord Soth's library of just about every shareware and playable demo built for head-to-head mayhem via modem, network, Internet, or serial port.
- MPOG Multi-Player Online Gaming: Click here for info on most of the best Internet gaming services.

CNET's gamecenter

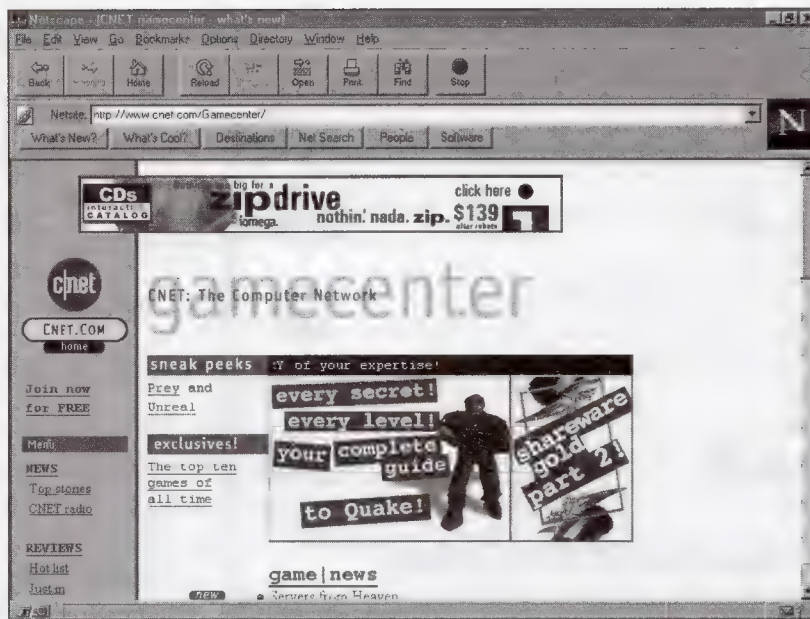
<http://www.cnet.com/gamecenter>

Look, punk, you can call 'em C/Net, C|NET, or CNET—I don't give a damn. Just make sure you haul your weak ass over to CNET's gamecenter (shown in Shot 8.5) next time you're gunning for more groovy gaming info than yer undersized brain can handle. Gamecenter is one of the sleekest gaming webzines out there, and it's loaded with

Web Addresses for Dummies

CNET specializes in real obvious Web addresses. Go to <http://www.search.com> for their search engines site. Check out <http://www.news.com> when you want the latest dirt on the computer biz. And if it's shareware yer after, make a precision jump to—hell you know where this is headed—Shareware.com, at <http://www.shareware.com>. Shareware.com is CNET's software central—home to just about every kinda freeware, shareware, and demo program you can get on the Net.

If you already know what you're lookin' for, type a word that describes what you want into the Quick Search text box (could be a game name, could be a kinda game), then select PC-Games from the pull-down menu underneath this text box and hit the Search button. If you're just snooping around, click on Browse by Most Popular or Browse By New Arrivals (you may have to scroll down a little to find these options).



SHOT 8.5: A clean, well-lighted place to read about killing alien maggots

up-to-date gaming news, cheats, online strategy guides, interviews with game developers, and in-depth reviews of new games and game-related hardware.

Games Domain

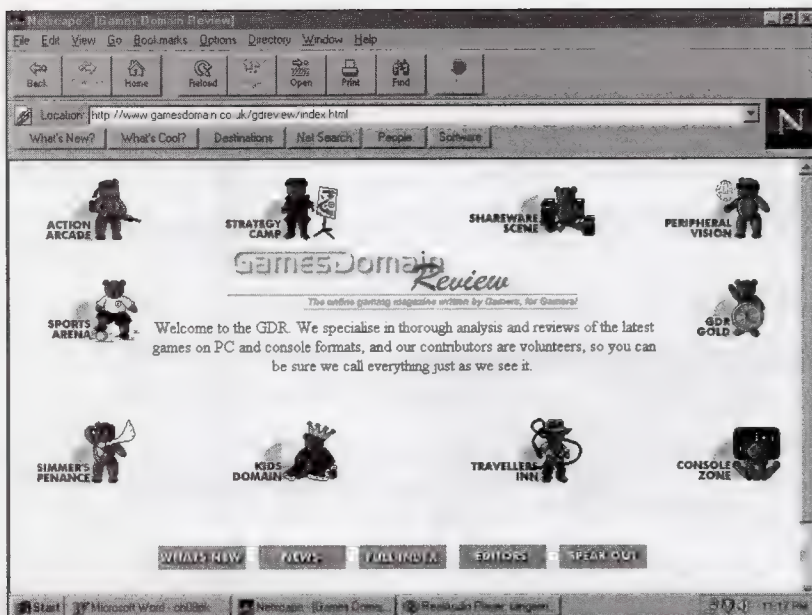
<http://www.gamesdomain.com>

Sweet content and ease of use will probably make Games Domain one of yer favorite home pages away from home. The game download areas at this site are a little tough to locate, but the real strengths of the place are its gaming info and reviews (see Shot 8.6). The hottest games in all genres are reviewed by volunteers and most of the reviews crank. If you're not sure if the latest version of 3D Death Pac Man is any good, check out what Games Domain has to say about it.



DUKE SEZ

Games Domain uses an animation plug-in called FutureSplash. You don't need it to get to the download area; if you don't have it installed, no sweat. That's why step 2 in my download instructions tells ya to click on No Plug-In.



SHOT 8.6: "You gonna hand over the good stuff, or do I gotta frag all 8 of these damn bears?"

If you wanna get to the Games Domain software collection, do like I do:

1. Click on Direct Download at the main screen.
2. Click on No Plug-In (disregard all the other stuff).
3. Choose yer operating system of choice.
4. Scout around both the Last 100 Additions and Hot Downloads sections and then start shoveling stuff into yer pack. Hey, it took some work gettin' here, but it was worth it. Right, scrub?

Other good areas at this site that deserve the once-over include:

- **Freebies:** This is a list of game-related contests on the Web. Scroll through it to see what you could win. You'll find some pretty friggin' strange contest ideas in the mix.

- ❶ Coding Nexus: A nice set of links for game programmers, level designers, and general game hackers.
- ❷ Games Info: This includes a huge lists of game patches, FAQs, walk throughs, hints, game magazine sites, and more. Games Info is one of the easiest ways to get tons of info about games and game companies—great source.

GameSpot

<http://www.gamespot.com>

GameSpot has a sweet design and it packs more buttons than a B-52. Yeah, they've got walk throughs, software, news, reviews—the whole deal. And sure, they cover all kinds of games, with areas on action, adventure, simulation, role-playing, sports, and strategy games. Hell—they've even got sections just for interactive movies and computer puzzle games. They've also got a new low-bandwidth option for people who wanna skip the graphics and get right to the goods.

Industry buzz sez GameSpot is gonna join forces with another game site, Nuke (I'll get to it in a sec), and put together some kinda super-site. *Groovy.*

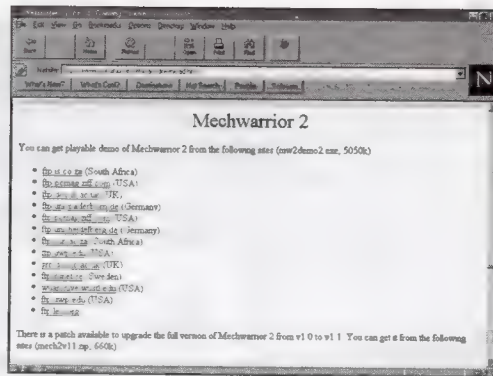
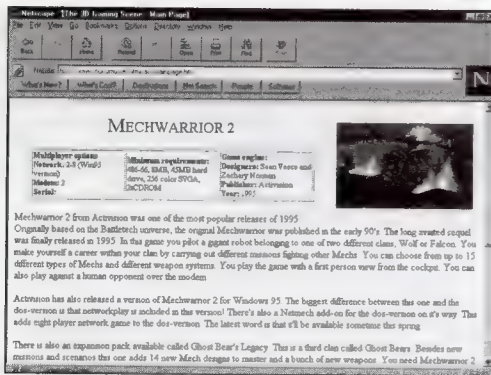


3D Gaming Scene

<http://www.pol.umu.se/html/ac/mainpage.htm>

The 3D Gaming Scene is just what you'd guess from the name—a cool place to start looking for software and info on 3D action. It stocks just about all the 3D games that're worth half a damn (and at least a couple that ain't). It also has real nice things to say about me, so you know yer dealing with a class operation.

When you get to the main page, just scroll down to see their list. If this page is too huge (it's got 15 screenshots right now), slip around the front and come in through the side door at <http://www.pol.umu.se/html/ac/spel.htm>, where the bandwidth is light and the livin' is easy. The 3D Gaming Scene is threatening to move to a new URL where they can have their own domain (that URL they've got right now sure does blow). They're also talkin' about a serious redesign. If they have a clue, they'll set up a link to take you from their old address straight to their new digs. But if they



SHOT 8.7: The 3D Gaming Scene has a review of each game and links to places where you can pick it up.

don't get around to it, make sure you hunt this one down using the recon skills I showed ya back in Level 6. This site's just too rockin' to miss.

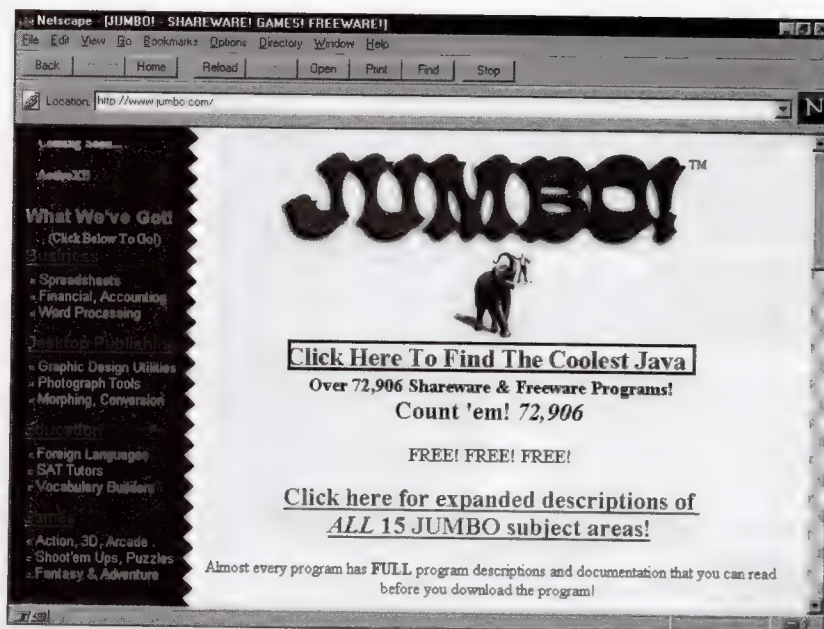
Jumbo Software
<http://www.jumbo.com>

This site knows what it is and why you dropped by. Like Shot 8.8 screams, “Shareware! Games! Freeware!” I ain’t gonna argue with any place that sez it’s got over 72,000 programs on tap.

Do yourself a favor and click Games on the home page so you can avoid everything else (see Shot 8.8)—not 'cuz it's bad, just 'cuz there's too much damn eye candy. If you don't watch out, you'll be downloading so many .zip files of assorted geek junk, your hard drive'll crack in two and spill out hellfire. OK, probably not, but why take the chance?

NUKE
<http://www.nuke.com>

NUKE (no relation to yers truly) is a little more serious than most big-time gaming sites. That may be because it's part of Ziff-Davis, the magazine folks who publish excellent rags like *Computer Gaming World*, *Electronic Gaming Monthly*, *EGM2*, *Computer Life*, and *PC Magazine*. Besides handing out info from *CGW*, *EGM*, and *EGM2*, NUKE's also a gateway to Ziff's enormous software library—over 10,000 files and countin'. Lots



SHOT 8.8: Jumbo! Jumbo! Jumbo!

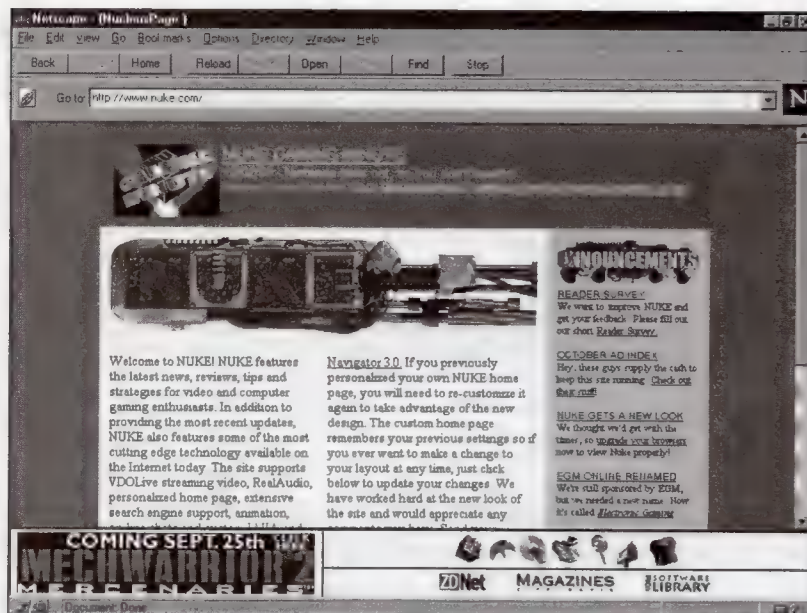
of these are utilities, device drivers, and other non-game-related technoid crap, but lots of 'em are games, too. Ready to go grab some more?

In case you have trouble clickin' yer way around, here's how to draw a straight line to where you wanna go:

1. From the NUKE home page, click on the ZDNet Software Library icon (in Shot 8.9 it's in a frame in the lower-right corner).
2. After the ZDNet Software page loads, click on Games.
3. Click on What's New, Action, or Most Popular Commercial Demos . . . whatever you're looking for.

NUKE Web site uses many of the Web's latest toys, including streaming audio and video, and cool animations. The download area also has some cool features:

- New Duke, Quake, and Doom levels are listed with the latest shareware versions.



SHOT 8.9: Gotta love that name. . . .

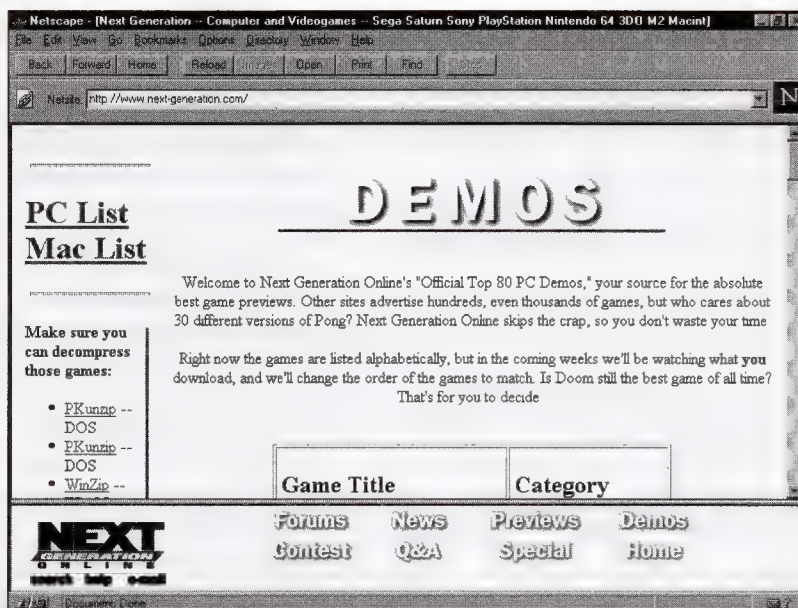
- A detailed description of every game and new level is included on its download page.
- They also list the number of downloads to date for each game.

Like I already told ya, Nuke and GameSpot are talking merger. It can't miss, baby.

GAME MAGAZINES ON THE WEB

NUKE isn't the only PC game mag connection on the Web. These guys are a perfect fit—the mags have the content, the Web has the hooks for software downloads, daily updates, full color, sound, and motion. These game mag sites usually specialize in:

- The latest news, updated daily
- Cheats and walk throughs for your favorite games
- Selected game downloads (see Shot 8.10)
- Summaries of magazine articles



SHOT 8.10: Next Gen's demo downloads

- New game levels made by other gamers
- An index of back issues

Table 8.1 gives you a list of some of the best game mag Web sites, but it's just the tip of the old battle ax. Bust out yer search skills and you can find a Web site for almost any game mag on the stands. ('Course, most of these mags also shove their URL down your throat as soon as ya flip open their covers.)

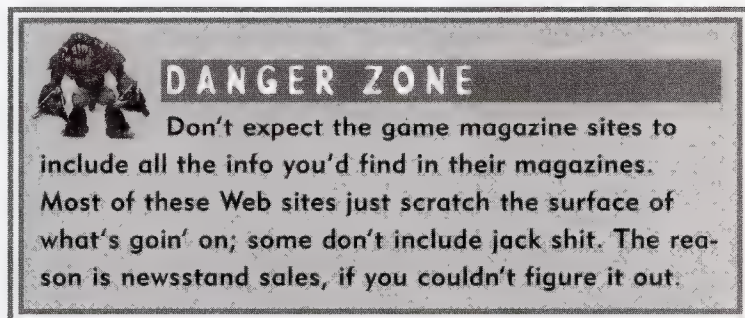


TABLE 8.1: SOME GAMING MAG SITES

MAGAZINE	ADDRESS	WHAT ABOUT IT?
Computer Games	http://www.cdmag.com	The Web site for the hardcore Strategy Plus strategy gamer. Lots of articles on multiplayer strategy games.
Computer Gaming World	http://www.zdnet.com/gaming	The biggest gaming mag on the planet has more shareware, articles, game patches, and reviews than you'll ever need. Good sports game coverage too.
Next Generation	http://www.next-generation.com	One of the best sites for news on PC, Mac, and console games.
PC Gamer	http://www.pcgamer.com/main.html	Great site for reviews of upcoming games.

MULTIPLAYER MAYHEM

Man, I'm going through editors faster than I usually run through pig cops. This latest one just went flyin' out through my back door. Maybe I shoulda opened it before I tossed him through. Here's how he got on my bad side:

"Duke," he says with a college-boy sneer, "you gotta make sure your overview of multiplayer games and services is *comprehensive*."

This is what I woulda told him if he was still available for conversation:

1. Sure, I keep saying that the Net is changing fast, and it is, but there ain't nothing changing faster than the state of multiplayer gaming. Writing this section's a lot like trying to nail jelly to a tree. Satisfying, sure. Fun, yeah. But look away for 3 seconds and the only thing left on the bark is a trail of jelly slime.
2. Covered in any "comprehensive" way, this topic ain't part of a level of a book, it's a four-volume series, at mebbe 800 pages per volume. Do I *look* like I got time to mess with that?

Look, I'm not gonna even *try* and fork over some kinda complete coverage of this one. Instead, I'm gonna stay focused and just make 3 separate attacks. Attack 1 will give you a sample of some of the latest games that are heating up online. Attack 2 will serve up a look at a few of the biggest online gaming services in the biz. Then Attack 3's gonna strafe in from the side and make sure you know everything you gotta know to get online with the 2 most popular multiplayer games currently cranking—Duke Nukem 3D, and Quake. Let's rock!

THE BEST MULTIPLAYER GAMES

There's nothin' hotter right now than multiplayer games, and the people working at every gamin' company know it. If you're sitting around, twiddling your thumbs, whining about the lack of decent online games, you're either AWOL or you haven't been keepin' up. Stand back, 'cuz a tidal wave of multiplayer games is coming.

Although multiplayer games have been around for decades (ever heard of Pong or the Atari 2600?), they've never been as realistic or as intense as they are today. Multiplayer gaming is exploding with more power than a rocket-propelled grenade. Soon, almost every computer game on the market that *can* have multiplayer action, *will* have multiplayer action. Most of the hottest multiplayer games coming out right now fall into 1 of 4 basic categories:



- ☢ 3D first-person action games: The be all. The end all. The top dog. The bottom line. 'Nuff said.
- ☢ Flight sims: Fly around like the Red Baron wiping the enemy off yer windshield. Yee hah!
- ☢ Real-time strategy games: These babies demand a lot more brain power than reflexes, so make sure you screw yer skull on tight before you give 'em a try.
- ☢ Graphic multi-user dungeons(MUDs) and role playing games (RPGs): These are virtual worlds where people can form their own communities just to keep out drifters and other scumbags like you.

Since ya handled the general points alright, you think you can deal with something a little more specific? Here's a look at some of the biggest and the best online games that are already competing for your time, attention, and (in some cases) your money.

Duke Nukem 3D

Yeah, Doom was cool, but there ain't nothing cooler than DN3D's rippin' levels, rockin' weapons, and kick-ass interactive environment. The jetpacks and trip mines are a blast, the monsters are alien bastards, and hey—it's got me—how can ya go wrong? If you haven't already played this one, yer nothing but a scum-sucking, low-life deserter. Go get it and get it now. (See Shot 8.11).

DN3D is one of the rulers of online multiplayer gaming. It comes equipped for network, modem-to-modem, and Internet service play. A little later on in this level I'll show ya how to get online with DN3D and kick out the jams in a multiplayer frag-a-thon.

Quake

Quake's the latest game from the people at id who cranked out Doom and Doom 2. Sure, some of the levels are a little dull, and all the levels are gloomy as hell, but I gotta admit, there's a certain charm to watchin' your opponent's body blow apart and his head fly



SHOT 8.11: That's livin'. And that's dyin'.

into the lava. Grab a nail gun and start hammerin', or pick up the rocket launcher, and make some new friends just in time to mourn their swift and sudden passing. (See Shot 8.12).

Quake has built-in server capabilities that make hooking up to an existing online game quick and easy. With your Internet connection, you can go to a Quake server Web site like the Stomping Grounds (<http://www.stomped.com/servers.shtml>), get the IP address of a few Quake servers near you, then enter those addresses in Quake's Join the Game At address field under Multiplayer TCP/IP. Move on this later.

MultiPlayer Battletech: Solaris

This one's from Kesmai, a major game developer who recently split into Kesmai Studios (the part of the company that makes online games) and ARIES Online Games (the part of the company putting together a large group of multiplayer games that are expected to run through online services like CompuServe and AOL.)

MultiPlayer Battletech is based on the FASA Battletech universe and it's a great way to let off some steam by crushing other Net gamers. Right now, this Windows 95 game is in open beta so lots of people are trying it out for free. Get over to the Kesmai site (<http://www.kesmai.com>) fast and check if any Kesmai open beta tests are still runnin'.



DUKE SEZ

Keep both eyes out for a new 3D Realms Duke Nukem add-on called the Plutonium Pak, with cool new places to visit (like Duke Burger and Area 51), new weapons (like a microwave gun that lets you superheat bad guys 'til they expand and explode), and new monsters (like a pig cop in a tank), bosses (including one very badass Queen Alien Drone), and babes. The Atomic Edition (due around December) will unify the Plutonium Pak and the original game. It should also come with two Duke Windows 95 desktop themes complete with lots of new Duke-Talk and a Duke screen saver.



DUKE SEZ

Because people who play a lot of Quake tend to be kinda . . . slow . . . I'm gonna spell out how you get Quake up and running over the Net real careful-like. See the section on Quake a little later in this level.



SHOT 8.12: Prognosis: terminal

One of the best things about this game is the world they've created. You can wander the streets of different towns, drop into bars to meet other people online, and either team up or challenge 'em to a fight. If you've found some opponents, you travel to a staging area, then pick a Mech—the walking armor you'll use to wage war. Once you've outfitted the Mech of yer dreams, you'll get dropped onto a planet where you appear



SHOT 8.13: The cockpit's kinda cramped, but it'll do the job.

on a large landscape with mountains, buildings, and other obstacles. You'll start on one side of this landscape, your opponent starts on the other. Shot 8.13 gives you an idea why ya don't wanna run into *me*.

Air Warrior

Kesmai's Air Warrior is only available for CompuServe, AOL, and Earthlink Networks, but you can still download the software from <http://www.kesmai.com> and learn to fly. This flight sim has great graphics (see Shot 8.14). Air Warrior cockpits take some gettin' used to because the controls and gauges of the airplane are considered more important than the 3D world you see out of your cockpit. This is supposed to change in Air Warrior II, which will be available through the Total Entertainment Network (TEN, covered later in this level).

Warbirds

Warbirds is a multiplayer flight sim from Interactive Creations Inc. Hundreds of players can dogfight in the same "theater" at the same time. Just think about it—all those planes, and a living human brain inside each damn one. These aircraft are WWII vintage (see Shot 8.15) but that ain't as bad as it sounds, in part because new planes are



SHOT 8.14: Kesmai's Air Warrior has some incredibly detailed cockpits and a huge variety of props, jets, and tanks.



SHOT 8.15: Players in Germany can fly against Americans in B-17s. WWII all over again.

getting added all the time, and in part 'cuz it's a helluva lot easier to dogfight at 200 mph than at 450–500 mph. The Warbirds cockpit is real close to the airplanes of the

day, and the view outside the cockpit is much more realistic than in Air Warrior I.

Like most Internet games these days, Warbirds lets you use the Web to hook up and play online. After you download the software, however, you'll have to sign



DUKE SEZ

In Warbirds, players can aim for specific parts of enemy aircraft. Shoot their wing or rudder and you might get to watch as that part of their plane falls off.

up using Telnet or by phone. The monthly fee is \$10, which gives you 5 hours; additional hours are \$2/hour. As gaming goes, this price is pretty standard. Check out ICI's site at <http://www.icigames.com> for more info.

Command & Conquer/Red Alert

Command & Conquer and its pre-quel, Red Alert have everyone's adrenaline buzzin'. These games aren't first-person combat, like Duke and Doom. Instead, they're

¾-perspective games that look kinda like Civilization and SimCity but pack one heluva lot more fast-paced violence. Because everything happens in real time, if you slack off, yer opponent's gonna make you pay.

Ultima Online

Ultima goes way back, pre-Web, to the old Apple II computer. Ultima Online has been in the works for over a year, and it finally might be up and running by the time you read this. If yer curious, you can check the status at <http://www.ea.com/origin/english/index.html>.

The first time people on the Web got a look at Ultima Online was back in April of '96, when Origin released a "pre-alpha" version for players to test. The beta was released in August, '96, and the gamers who dig this stuff were stunned by the massive virtual world Origin had already put together (see Shot 8.16).

In a lot of ways, Ultima Online is shapin' up to be much more of a multiplayer community than a multiplayer game like Duke or Quake. It's a place where people with tons of free time can take on a fictional ID, explore different worlds, meet new people, and battle over 110 monsters.



SHOT 8.16: This screen, from an early release of the game, gives you an idea how much fun you could have if they'd let RPG launcher's pass through the gates.

Meridian 59

You interested in gettin' lost in a strange new place with so much to explore you might never be able to find your way back out? If so, then Meridian 59, 3DO's first-person, 3D role-playing game, might be yer ticket. This ground-breaker just got released in October '96 and it's already blowing minds all over the world. Check out Shot 8.17 for a look at what they're sellin'. Price (right now) is about 40 bucks for the software and another 10 bucks per month for unlimited play. Unlimited's a real big deal to some people—3DO's already braggin' that some freakshow spent 67 straight hours hooked up.

Some of the features that are stealing all this guy's free time include cool character animation (even gestures and facial expressions), tons of choices for how your character looks, dozens of monsters, 5 cities, and everything from beaches to underground caves. And then there's my fave: an arena for player-to-player combat. If you want more info, you gotta jump to <http://www.3do.com/studio3do/meridian>.

Coming Soon . . .

There's no sign this explosion's gonna slow down. The guys over at 3D Realms are workin' on a shitload of multiplayer games that are gonna try to make Duke Nukem 3D look like nursery school. Some of this stuff includes Shadow Warrior, which uses the kick-ass Build Engine to create a tough-guy-in-Samurai-Japan game, and Blood—hey, the title sez it all. They're also busy with Prey, 3D Realms' true-3D, butt-kickin' Quake-killer. Meanwhile, Epic, another shareware company, is workin' on a 3D game



SHOT 8.17: Check out Meridian 59's 3D environment.

called Unreal, which should be out in '97. Its 3D engine already looks pretty hot (see Shot 8.18).

Another game coming soon is Diablo, from Blizzard. Like Command & Conquer, Diablo is a $\frac{3}{4}$ perspective, multiplayer game. This one is set in hell. Take on the devil himself while takin' a lava bath!

Game companies come and go, but some of 'em just get better and better. Table 8.2 has the lowdown on some of the coolest companies out there making today's best multiplayer games.



SHOT 8.18: Web sites for Unreal, with screenshots like this one, started showin' up at least 5 months before its expected release.

TABLE 8.2: THE BEST MULTIPLAYER GAMING COMPANIES

COMPANY	WWW ADDRESS	SOME OF THEIR GAMES	WHAT'S SO SPECIAL ABOUT 'EM
3D Realms	http://www.3drealms.com	Duke Nukem 3D, Shadow Warrior, Prey, and Blood	The coolest environments, weapons, monsters, and babes of any first-person action games out there. Also: Me.
id	http://www.idsoftware.com/main.html	Doom I, II, Ultimate, Quake and Final;	Doom was the first serious 3D multiplayer game.

COMPANY	WWW ADDRESS	SOME OF THEIR GAMES	WHAT'S SO SPECIAL ABOUT 'EM
Accolade	http://www.accolade.com	Deadlock, Eradicator	Primarily a console publisher, these jokers are now publishing award-winning PC games.
Blizzard Entertainment	http://www.blizzard.com	Warcraft I, II, Diablo, Starcraft	Their new battle.net service comes free with all their multiplayer games!
Bethesda	http://www.bethsoft.com	Daggerfall, Terminator SkyNet: No Limits	Die and come back as a Terminator, then go kick some ass. SkyNet lets you be the badass from the film.
Westwood Studios	http://www.westwood.com	Command & Conquer, Red Alert, Monopoly	One of the most popular games of '95 now has a mean multiplayer sequel.
Interplay	http://www.interplay.com	Descent I, II, Shattered Steel, Virtual Pool, Forgotten Realms, JetFighter III	These guys are a leader in multiplayer gamin'.
Mircroprose/Spectrum Holobyte	http://www.micropnose.com	Civilization II, Grand Prix I, II; Falcon 4, Magic: the Gathering	This multiplayer gamin' powerhouse is going to roll out with a shitload of games in '97.
Kesmai/Aries Online Games	http://www.kesmai.com	Multiplayer Battletech: Solaris, Air Warrior II, Harpoon Online	Fight the enemy right now in Kesmai's Internet exclusive and online service games.
Epic	http://www.epicgames.com	Unreal, Fire Fight	Unreal looks hot.
Domark/Eidos Interactive	http://www.domark.com	Confirmed Kill, Total Mayhem, Tank Commander, Deathtrap Dungeon	Try to keep up with all the multiplayer games these guys are producing. Good luck, they've got more than any other company.
Interactive	http://www.imagicgames.com	Apache, Hind	Cool helicopter sims are some of the best ways to kick airborne ass.

COMPANY	WWW ADDRESS	SOME OF THEIR GAMES	WHAT'S SO SPECIAL ABOUT 'EM
Electronic Arts	http://www.ea.com	Need for Speed, AH-64 Longbow, Dungeon Keeper, EA Sports	The biggest game company on the planet is moving seriously toward Net gaming.
Origin	http://www.ea.com/origin	Ultima Online, Crusader: No Regret, Privateer II, Wing Commander IV	Ultima Online is one of 3D MUDs.
Sierra On-Line	http://www.sierra.com	Front Page Sports, Earthsiege II, NASCAR I and II	The most popular racing sim on the planet and more singleplayer classics than you can fit in one lifespan.
Maxis	http://www.maxis.com	SimCity, SimCopter, SimFarm, SimEarth	The most famous sims ever made are now multiplayer over the Net.
Activision	http://www.activision.com	MechWarrior II and Mercenaries	More firepower than you'll know what to do with.
Microsoft	http://www.microsoft.com/games/	Close Combat, Hellbender, Internet Gaming Zone	They own the world.
Mindscape	http://www.mindscape.com	Silent Hunter, SU-27 Flanker, Panzer General	Multiplayer sims from these guys are the most real you'll find. Get your brain out 'cuz you're gonna need it.

This ain't the whole story by any means. There're so many companies out there workin' on new multiplayer PC games, you might as well throw out that Sony Playstation (if you don't have one, hell, go throw someone else's Playstation away just for kicks). Then sit back and enjoy the view 'cuz this is the best time ever to be a gamin' lunatic. The asylum just grew 100 times its original size and you'll never wanna escape again.

MULTIPLAYER GAME SERVICES AND SOFTWARE

The easiest way to get a multiplayer game rollin' is still through a local area network (a LAN) running a protocol like IPX. Either a Novell or Microsoft network will do the

trick. Most companies these days have networks at the office, but that only helps the working stiffs.

Assuming yer just an average Joe with a PC and an Internet connection, you 3 got kinds of companies that can help you out:

- ❖ Big, commercial services that charge by the hour or the month
- ❖ Special software that hooks your game straight up with someone else's (avoiding hourly and monthly charges)
- ❖ Free, experimental Internet games in the development stage

The big networks provide special software that makes hookin' up super easy. The free experimental Internet games and special network hook-up software require a little work during installation, but let you slug it out on the cheap.

GAMING NETWORKS AND SOFTWARE OPTIONS

Multiplayer gaming networks have been around a while, but they were hard to get to back when the Net was a drag to navigate. When CompuServe started in '79, it soon included mutliplayer chess and dungeon games, which were ASCII games you'd play in DOS.

The Genie network started in the late 80's. This dial-up online service had the first graphic multiplayer games—Kesmai's *Air Warrior* and FASA Corporation's *Multiplayer*

Battletech. These games are still around in different forms—*Air Warrior II*, *Mech-Warrior II*, and *Battletech: Solaris*, but now they're Internet compatible.

Today, TEN, Kali, and Mplayer are a few of the sweet new services and software that let you hook-up, meet other people who wanna play, and then fry

KICK-ASS TIP

More and more games are comin' out with built-in TCP/IP hook-ups or Net server hook-ins. In English, this means you can play other people over the Net free—once you buy or download the game. Multiplayer games that don't provide TCP/IP support make you go through one of the gaming services I talk about here.

'em. 'Course, there're lots more companies out there, like DWANGO and ARIES Online, but a look at these 3 will give you a good idea what you got to choose from. Don't forget what I told ya: This stuff is changing superfast, so it's yer job to get out there and score all the latest info.



DANGER ZONE

Watch the clock, Private. You gotta keep in mind that some of these services charge by the hour. These babies are easy to hook into and you'll always be able to find suicidal opponents. If you haven't multiplayer gamin' yet, you'll be amazed how fast 2 hours go by when you're in the middle of a game.

TEN (Total Entertainment Network) <http://www.ten.net/TENHome.html>

The Total Entertainment Network (or TEN), is quickly becoming more than just a gaming connection; it's also an online community. TEN's extensive chat areas let you create profiles of yourself, so that when someone clicks on your name, they're briefed on yer skills in combat, feelings about alien races, etc. The interface is easy to use, and includes a ton of places where you can meet other players (see Shot 8.19).



SHOT 8.19: TEN's interface ain't just cool, it's easy to use too.

TEN constantly signs up the best multiplayer games for online play, and many of 'em are TEN exclusives. Some of the games TEN supports include:

- ☼ Duke Nukem 3D
- ☼ Command & Conquer
- ☼ Quake
- ☼ Deadlock
- ☼ Confirmed Kill
- ☼ SimCity 2000 Network edition
- ☼ Necrodome

When you choose a game, say good ole Duke Nukem, you'll get launched into a new screen with a bunch of different chat areas. Meet some players in the chat areas, discuss

the best level for a healthy round of Duke- or Death-Match play, then launch into the level. A cool thing about this chat area is that you can also see who's already dukin' it out in a level, and then drop in on the action if there's still room.

The sign-up for TEN is pretty painless 'cuz the software is so well designed. You download the software,

install it, then double-click on the TEN icon. The sign-up screen will then show ya the sign-up agreement (you know, all the fine print), then provide real information about yourself. After that, you enter your credit card information, then create your online character.



KICK-ASS TIP

TEN gives latency information on a game and the players when you launch into the game. Latency is the amount of time it takes to send and receive game packets over the Net between the TEN server and the other players on the server. A little alien named Mr. Bandwidth will test the connections for you, then tell you whether you should bother starting up this Duke- or DeathMatch.

TEN provides 2 different kinds of pay plans:

- ⊕ A monthly fee of \$4.95 for 5 hours of play. Extra hours are .95/hour.
- ⊕ Unlimited use for \$14.95 a month. No need to check the clock when yer bustin' heads.

TEN is slick. The interface is not only cool, it's easy to use and a no-brainer when yer looking for a particular game. The chat rooms also rock. Play nice with saps before you bring on the pain.



DUKE SEZ

These rates are part of a TEN promotional offer for the first 25,000 who sign-up with the regular service. The rates may go up by the time you read this.



DUKE SEZ

If you own the full version of Duke, you might not have seen that it comes with TEN software built-in. Gettin' online is as easy as going into setup, selecting the TEN listing, and sittin' back. I'll walk you through it later in the level.

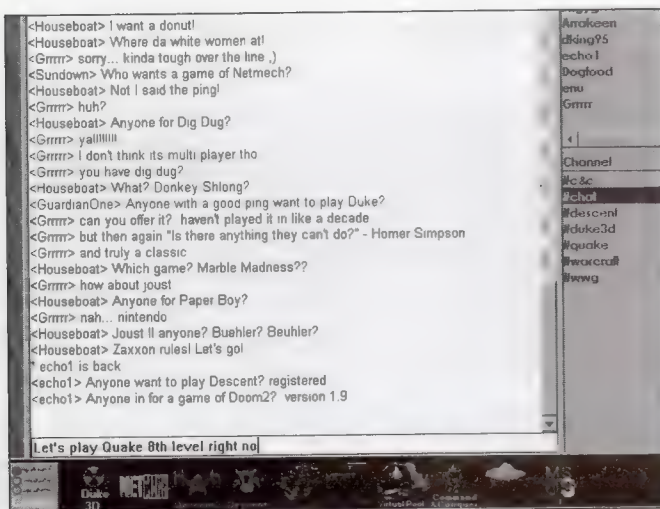
Kali

<http://www.axxis.com/kali>

Kali could be the best thing that ever happened to you gamin' grunts. This one's not really an online service, but a shareware program you download, pay for, then use to find other players on the Web. No hourly fees or monthly subscription charges.

The Kali software lets you play multiplayer network games over the Net by convertin' IPX packets (what most games are set up to work with) to TCP/IP packets (what the Internet uses) and shootin' em across the Net to a Kali server. After you try it out and send in your registration fee of \$20, you can hook up to the Net, find a few opponents (see Shot 8.20), and play some of the best multiplayer games for as long as you want.

Because it's shareware, you can try the software to see if you like it. Kali lets you hook up to a Kali server for 15 minutes, then cuts you off. You'll have to restart to get online again, but the 15 minutes does give you enough time to hook up with a server,



SHOT 8.20: Kali looks like crap, but it's the cheapest way to play if you're a fragmeister.

meet some gamers, and open a can of whip-ass on 'em. Some of the games Kali works with include:

- ☢ Duke Nukem 3D (rockin'!)
- ☢ MechWarrior II
- ☢ Decent I and II
- ☢ Warcraft II
- ☢ Doom I and II
- ☢ Virtual Pool
- ☢ Terminal Velocity
- ☢ Command & Conquer

Kali supports many more games than just these bad boys: Basically, any IPX-compatible game should crank. Check out their Web site to see all the titles that have been tested and are compatible with the Kali software.

When you download and install Kali for Windows 95, connect to the Net, then click on the Kali icon. You'll score a list of all the working Kali servers around the world.

All the servers are “pinged,” and the servers are listed from fastest to slowest. Click on a server, then connect and go to the chat areas to find someone to frag!

Mplayer

<http://www.mplayer.com>

Mplayer’s hot! With a fancy interface and a bunch of unique features you can’t find on other services, Mplayer is one of the most advanced Net gamin’ services out there. Here’s some of what they’ve got:

- **Voice Chat:**
Chew out a flunky teammate or taunt your tough-guy opponents in real time using a microphone attached to yer PC’s sound card. You can also talk to other gamers in chat rooms to organize games and teams.
- **Draw up battle strategies:** With the ScribbleTalk “whiteboard” and its drawing tools, you and your team mates can draw diagrams and attack strategies in real time (see Shot 8.21).
- **Automatch:** If you can’t sit still long enough to find some players in the chat rooms,



KICK-ASS TIP

You’ll never have to watch the clock when you play games with the Kali software. After you register the shareware (for \$20), you can play any of Kali’s supported games for as long as you want and with as many players as the game can handle. But don’t forget about your monthly ISP charge.



DUKE SEZ

A “ping” is a Net test that sends a TCP/IP packet to a distant server and briefs you on how long it took to get there. The shorter the amount of time (measured in milliseconds) the better the connection you’ll get. Always find servers and players with low ping times.



DUKE SEZ

Mplayer has been in beta for a long time; if you’re lucky it’ll still be available free for a trial run. Check their Web site to see if the software’s still available. When the software is finished and released, the service will probably cost ya.

just click on Automatch; Mplayer will toss you into the thick of it with other gamers.

Mplayer supports some of the biggest and best multiplayer games. Here's a run-down of a few titles in their lineup:

- ❁ Command & Conquer
- ❁ Mechwarrior II
- ❁ Deadlock
- ❁ Sim City 2000: Network Edition
- ❁ Chaos Overlords
- ❁ Warcraft

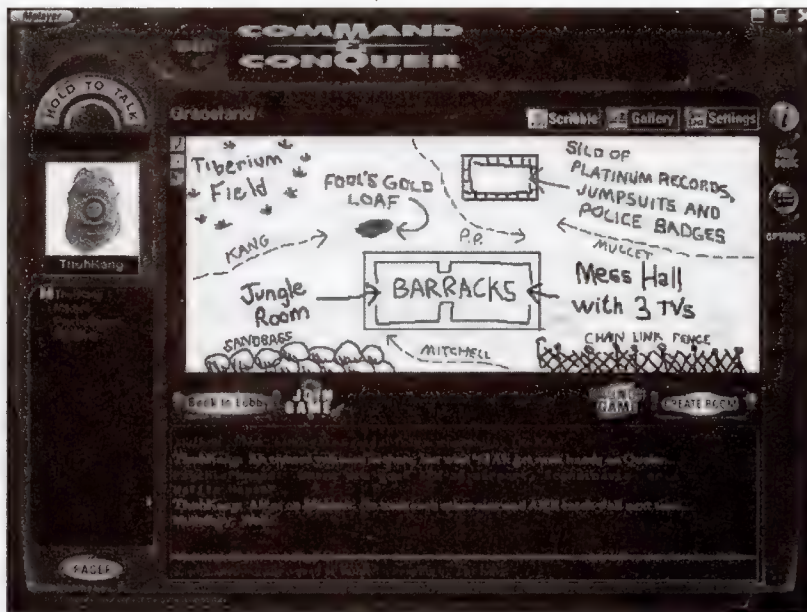
U Redi 2 Bust Heds? Internet Head 2 Head Daemon (IHHD)

<http://cactus.org/~knutson/IHHD/IHHD.html>

The granddaddy of Internet gaming hook-ups is IHHD, a public domain program written by Jim Knutson. This public domain (that's free to you blockheads) program lets you hook up with another computer using yer PC's serial port and an Internet host. When you get the bugs ironed out, you can frag some fellow Net-izens in some of the classic multiplayer games for no cost. A few of the big-name game classics that work include:

- ❁ Falcon 3.02/Mig 29
- ❁ Doom II, Doom, Ultimate Doom, Final Doom
- ❁ Descent
- ❁ Fighter Duel
- ❁ Warcraft

This service is pretty cool, considerin' the price, but the downside is there's no tech support and you can only hook up with one other grunt at a time.



SHOT 8.21: Use the ScribbleTalk board to map out your attack.

EXPERIMENTAL INTERNET GAMES

Some of the software out there on the Net isn't ready for prime time yet. Like I said earlier, programs that are still being developed are called "betas." You'll be seeing the word "beta" in a lot of different places on the Web, especially when it comes to games.

The reason the programmers put it up on the Web is to get your sorry ass to download, load, and test it. Even though nobody's paying you, when you fire up a game that's still a beta, you've just become a software tester.

A good example of this guinea-pig good times is Kesmai's Multiplayer Battletech, mentioned earlier in this level.



DUKE SEZ

The easiest way to tell whether a game is in "beta" is to read the damn Web page providin' the software. If you're too lazy for that, look at its version number. If the version number is less than one, it's a beta and is still in development. Usually the file name for the game will also have the letter b in it, like MW32_3B1.EXE.

'Course I can't tell ya for certain what games are currently in beta and what betas just went prime time and are now commercial packages. The reason is that game development moves so fast that anything in beta now won't be in a month or two. Your best bet is to use the search engine techniques discussed in Level 6 and go look for betas yourself. You should also visit the gamin' sites I gave you a while back.

DUKE ON THE NET: HEALTHY ASS KICKIN'

There's no better test of a qualified online soldier than a few rounds of Duke Nukem 3D. Sure there're other games out there that'll mess up your hair, but nothin' comes close to Duke's fast-paced action. Stick anywhere from 2 to 8 players in a DukeMatch level, and let yer adrenaline rip! (see Shot 8.22).

Gettin' online and into battle with fellow Duke opponents is easy, even though it don't got built-in TCP/IP support. Duke Nukem came out right when this whole Internet thing really took off, so my boys down at 3D Realms were wise enough to include the TEN software on the Duke Nukem CD-ROM.



SHOT 8.22: Happiness is a water-proof gun.

Here's how easy it is to get rollin' with online Duke Nukem 3D:

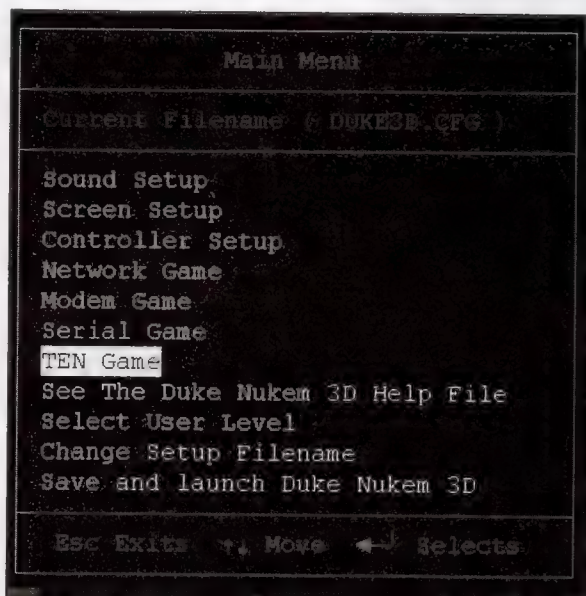
1. Open a DOS window and go to your Duke directory. Type **Setup** and press Enter.
2. When the Setup window appears (see Shot 8.23), move down to **TEN Game** and press Enter.
3. Setup will exit, and a message will appear asking you to switch back to Windows. Use **Alt + Tab** to get back into Windows.

When you get back into Windows, TEN will start up, ask for yer password, then connect you to the TEN network. Real simple.



DUKE SEZ

If you haven't joined the TEN network yet, just follow the steps listed here and you'll be online in minutes. TEN will still start and lead you through the registration process (make sure you have a credit card), then hook you up on the service. Check out the section on TEN earlier in this level for more info.



SHOT 8.23: Gettin' on TEN is like nukin' Nevada: You can't miss.

Kali: Multiplayer Duke on the Cheap

If you don't have a credit card, you can still play Duke using Kali95 software. Just download the shareware from the Kali site (<http://www.axxis.com/kali>), then install it.

Here's a run down of steps needed to get playin' using Kali:

1. Start up Kali by double-clicking on its icon.
2. You'll see a long list of servers on the left side of the screen. Pick a server from the top of the list and double-click on it. You'll get connected to the server and thrown right into a chat group.
3. Start yappin' away and meet the people online. Find some flesh and blood Duke goons lookin' for trouble. When you have a stable of crazies



DANGER ZONE

Whenever you play a Kali (or network) game of Duke, you gotta specify the correct number of players in the Setup menu. If you know 4 people are going to join you, make sure you specify 4 in the Change Number of Players box. If you've got a total of 3 players (including you) and the Number of Players box says 4, Duke will search for the 4th player forever and won't let you enter the game.

that are ready to roll, double-click on the Duke icon.

4. If you've got Duke configured correctly, Kali will drop to DOS and start the Duke Setup menu.
5. Move down to Network Game and press Enter. You'll

need to enter the total number of players and the level you want to play.

6. Launch Duke and wait until all the other players appear. The next thing you know, you'll be in the game and ready to open up a couple of cans of whip-ass.

Cool Duke Places on the Web

One of the coolest parts of the full retail version of Duke Nukem is that the actual engine that was used to create the Duke levels is included with the game. The *Build*

engine has spawned an entire community of badass game level designers who are fans of the game. These people use Build to create their own levels of anything from a cheap fast food joint to the NY Subway system.

A lot of these level designers and other fans of Duke upload their levels to cool Duke Nukem Web sites for easy distribution. If you've made it through the entire version of Duke, and yer lookin' for some new Duke challenges, check out a few of the Duke Web sites in Table 8.3 .



DUKE SEZ

If you're itchin' to create a new Duke Nukem level of your own, and you have the *Build* engine from the Duke CD-ROM in hand, check out *The Duke Nukem 3D Level Design Handbook*. This book, like all Duke's books, contains more information than you'll ever need to know, particularly about the experts secrets to building cool Duke levels.

TABLE 8.3: KICK-ASS DUKE SITES ON THE WEB

NAME OF SITE	WHERE IT IS	SO WHAT ABOUT IT?
Official Duke Nukem 3D Web Site	http://www.3drealms.com/duke3d.html	A direct line to 3D Realms.
Gamelords	http://www.gamelords.com/index2.html	Awsome site includes Duke hacker goods and many other multi-player game files.
Mike Miller's Duke 3D Page	http://www.bayserve.net/~mike/duke	Includes reviews of every level. Separates DukeMatch from single-player levels, too.
Duke Nukem Modem Page	http://152.160.53.241/Duke3d	Click on a state, then on a city to find a local DukeMatch opponent and play by modem.

Duke levels are just one way scrubs like you are squeezing DN3D for more multi-player mayhem. Another area that gets hacked is the game's .CON file, which controls

the appearance, intelligence, sound, and movement of the monsters in the game. Duke fanatics with some knowledge of C can create new monsters, weapons, and environments by tweaking the .CON file's code. You'll see a lot of this kinda of stuff at some of these Web sites.

SHAKE 'N QUAKE

Everything in Quake is created outta 3D objects, which makes for some interestin' decap-



KICK-ASS TIP

You wanna see how realistic Quake is when it comes to gravity? Check out the secret level in the shareware version (Level 8 Ziggurat Vertigo). This level has much less gravity than the other levels. When you jump and shoot a grenade, watch it fly in an arc toward a wall, bounce off and head straight for you! Imagine yer in hell on the moon as you fly over the pyramids and buildings. This is definitely the best level for DeathMatch in the shareware game.

itations when you peg someone with a grenade (see Shot 8.24). Sneak up on your opponent and wait 'til he turns around, then peg him with a rocket. There's nothin' like watchin' the blood fly in slow motion.

Quake also lets you look around in every direction without what the big brains call "parallax problems." Likewise, this 3D



SHOT 8.24: Later, Clem.

environment has true gravitational effects built into every object. When yer on an inclined surface, you slide down 'til you reach the bottom. Tilt up yer grenade launcher and lob those suckers even farther away.

Besides the realistic environment and cool monsters, the boys over at id did their homework and designed TCP/IP support right into Quake. The usual serial port and IPX hook-ups are there, so you can play over a phone line with 1 sucker or on the network with up to 16 players. If you play through Windows 95, however, Quake also gives you the option of connecting to the Net and playin' against Quake sickos all over the globe.

Quake was designed almost entirely for multiplayer gamin'. The tip-off is that Quake is a server-based game; it sets up a server environment and lets other copies of Quake connect as clients. One machine accepts info from the other machines, then sends out packets updating each player's info to everyone on the Quake "network."

Even when you play by yourself on 1 machine, Quake's still playin' as a server. It creates a "loopback" setup: Yer PC passes requests to Quake, and it sends back messages to yer PC. If you don't get it, don't sweat it 'cuz all you really need to know is how to get online and play through a Quake server.

QUAKE SERVERS: JACKIN' IN AND KICKIN' OFF. . .

You've never had it so easy hookin' up and playin' other goons. Quake's about as simple as it's ever gonna get, so if you screw this up, it's back to minesweepin' duty again. If you haven't tried multiplayer Quake yet, give pocket pinball a rest and listen closely. Pretty soon you'll be warmin' up the double gauge for a little target practice (see Shot 8.25).

With just the shareware version of Quake and your Net account, you can be crashin' the Quake death party in no time. The secret to gettin' online and playin' fast is findin' a Quake server that's got low ping times and an extra slot waitin' for you. The quickest way to check this out is to go to one of the Quake server lists in Table 8.4:

TABLE 8.4: SOME QUAKE SERVER LISTS

NAME OF SITE	WHERE IT IS	WHAT ABOUT IT?
Stomped Up and Running Servers	http://www.stomped.com/servers.shtml#listinfo	A great spot to check for the closest or fastest Quake servers. Updated every 5 minutes.

NAME OF SITE	WHERE IT IS	WHAT ABOUT IT?
The Legions of Quake	http://www.legions.com/rank.cgi?:::sf	Drop in and see if these servers are really as bloody as they say.
QuakeWatch	http://www.bart.nl/~quake/servers	Rates servers from fastest to slowest.
PIPO Quake Server List	http://www.pipo.com/quake/index.byname.html	This French server list shows servers around the world by country. Fight a Ruskie!
Ironman's Server List	http://ironman.planetquake.com/servers.html	Find a server with a low ping time, see what they're usin', and try to score an open slot.



SHOT 8.25: The natives don't look too friendly.

Like I said, yer only concern is findin' Quake servers with low ping times and a spot left in their game. When you find a few servers with low latency, write down their IP addresses; this is the info you're gonna enter in Quake so that the game can use TCP/IP to contact the server over the Net. Don't forget that Web addresses may change for these sites, or the damn Web sites might be gone by the time you get around to hookin' up online.

After you have a few IP addresses of Web sites that look promisin', you're gonna fire up Quake and get rollin' by following these steps:

1. Start Quake from Windows 95, then clean out that nail gun while the game loads.
2. When Quake's demo starts, press Esc, then move down to Multiplayer and press Enter.
3. Move down to Join a Game and press Enter again.
4. Move down to TCP/IP and press Enter—and be quick about it, punk!
5. See that text field called Join Game At? Enter the IP



DUKE SEZ

The ping times listed by these Quake server sites apply to the ping times between the Web site and the Quake server in question. Although this gives you a good idea which Quake servers have a fast connection, it doesn't tell you what kinda latency (connection speed) you're gonna get to your ISP's Web server. The best way to check ping times yourself is to get a little piece of software called Quake Spy, available at <http://www.panix.com/~sheaslip/qspy/index.shtml>



KICK-ASS TIP

id software recently released special software called QuakeWorld, that lets ISPs set up Quake servers at their ISP sites. With a Quake server at your own ISP site, latency and ping times aren't really necessary because the connection through a local Quake server is amazingly fast. Another feature of QuakeWorld software is it lets you chat with other Quake fans in real time.

address of the Quake server you wanna connect to (Remember Table 8.4?).

6. Press Enter then sit 'n stew.

Quake will go out to the Net, look for the server you specified, then try to connect. You can see its progress in the Quake console. If Quake finds the server, there's a spot left for you, and the latency is low, you'll get thrown right into the fray. Stay frosty soldier 'cuz it's showtime.

If something isn't workin' the way it should, and you can't figure out what's wrong, check a few things:

- ☢ Did you enter the correct IP address on the line? Check it, punk!
- ☢ Are you sure the Quake server had room for an extra player?
- ☢ The server might be playing a level from the registered version and you're trying to play it using the shareware.
- ☢ Did you dial-up yer ISP and get connected before you started Quake? This is supposed to be automatic, but some people have had problems.
- ☢ There might be a bug in the program. Try shutting down, turning on the computer again, then starting Quake. Now drop and give me 50, scrub.

If nothin's workin' right in multiplayer and you're tired of reverting back to lame-ass single-player mode, bust out to the Web and check out some regulation Quake sites for detailed information on Quake and Internet setup (see Table 8.5).

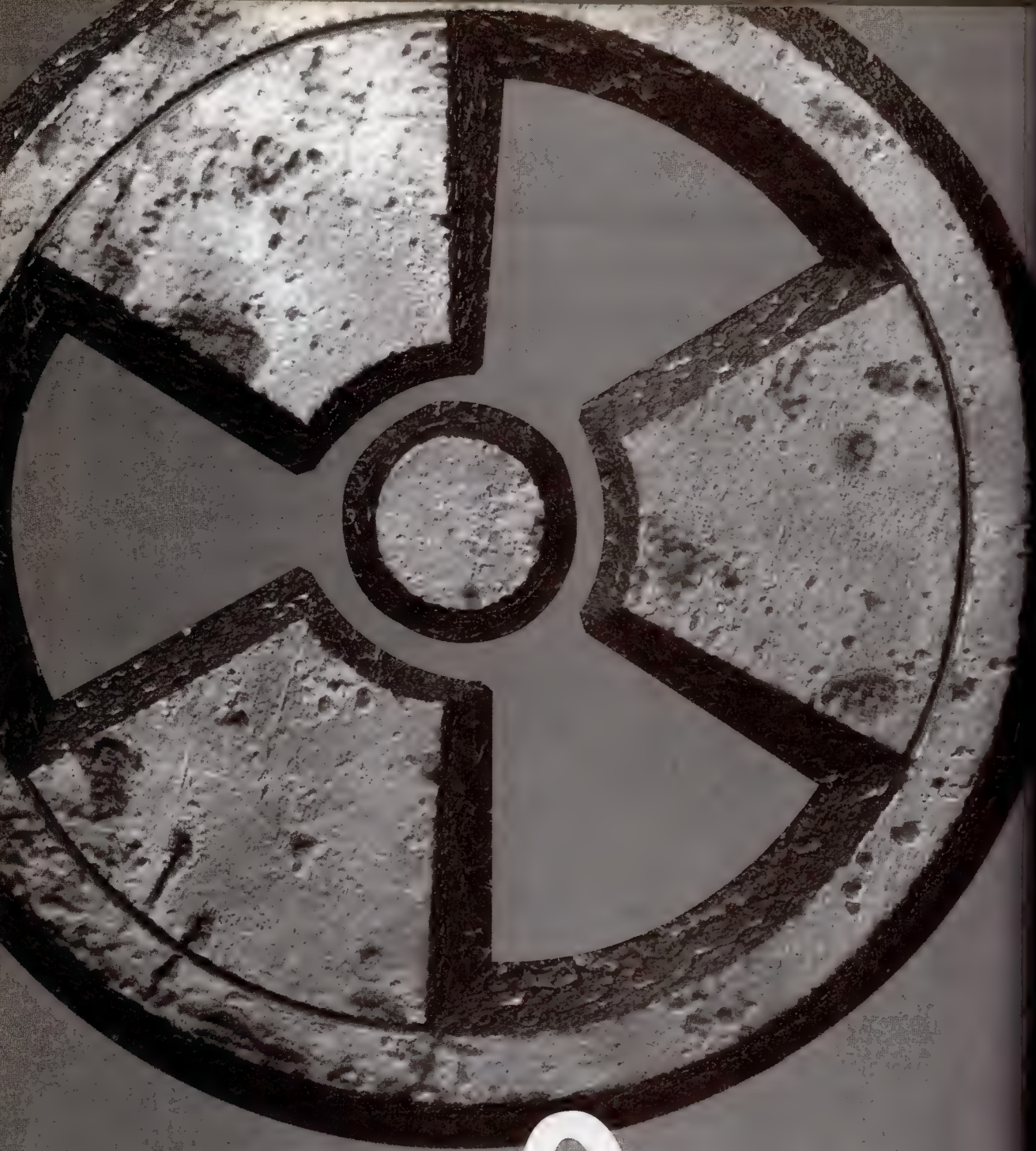
TABLE 8.5: DECENT SITES TO VISIT FOR EVERYTHING QUAKE

NAME OF SITE	WHERE IT IS	WHAT GOOD ARE THEY?
QuakeWorld	http://www.idsoftware.com/dmm	id software's site for ISPs and Quake nuts who wanna know about QuakeWorld server setup. Worth a visit.

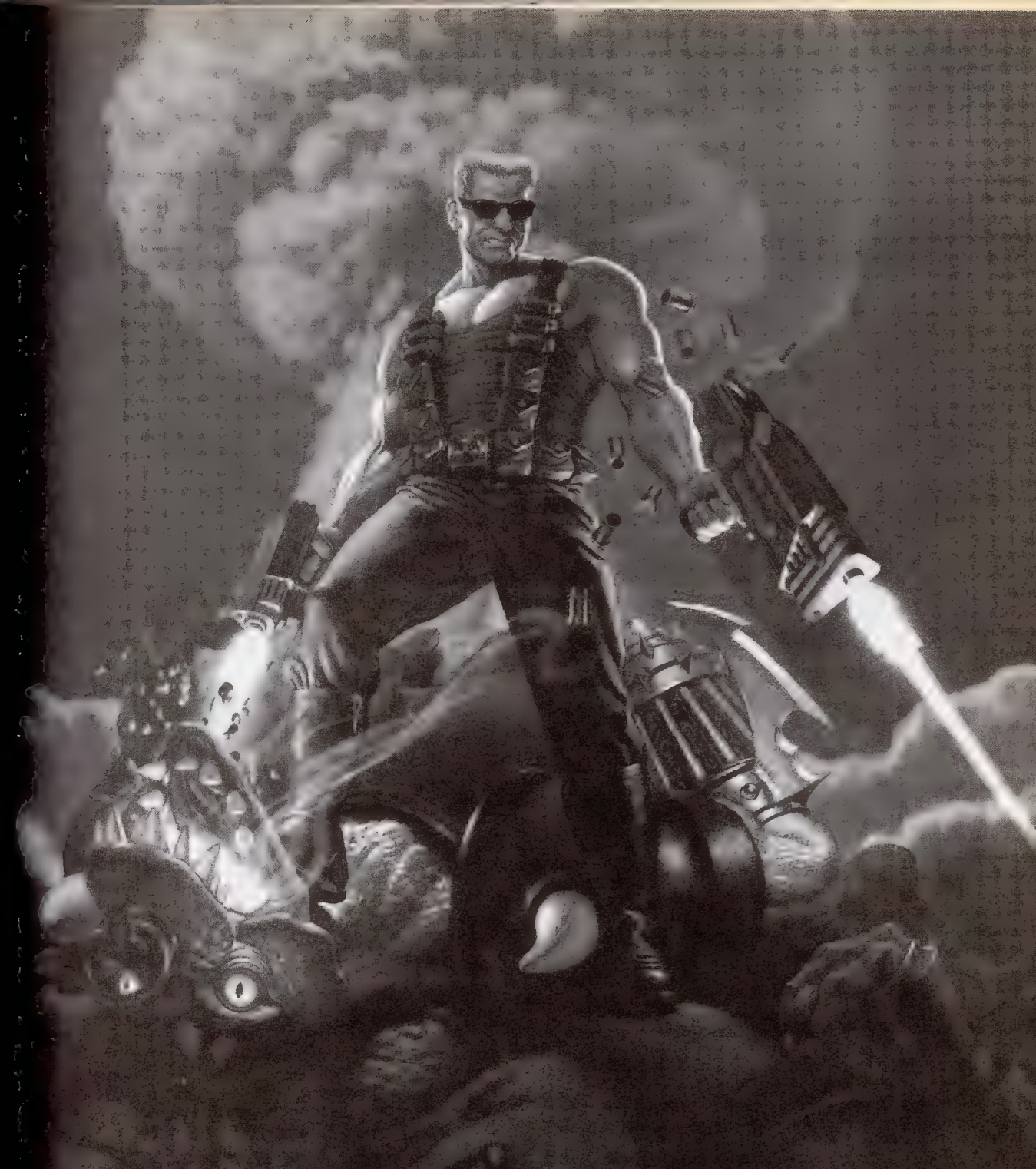
NAME OF SITE	WHERE IT IS	WHAT GOOD ARE THEY?
Quake Thred	http://www.visi.com/~jlowell/thred/index.html	Home page for the most popular Quake editor out there. Download it and check it out.
SlipGate	http://www.hidesert.com/user/dave/wuake.html	Makers of DooM2Quake, a converter for all your favorite Doom levels.
Quake Framerate Benchmark List	http://www.cam.org/~agena/quake.html#scores	Shows how fast Quake runs on different types of PCs.
Shake 'n Quake	http://www.canvasweb.com/quake	The word on what game hackers are doin' to Quake. New monsters, weapons, and characters for multi-player anarchy.

DON'T BE A CHUMP

Think yer ready for action? Before you try to make any online noise, you better snag a few tactics and strategies to back it up. You'll find what yer lookin' for in a little somethin' I like to call, Level 9: The Art of Online War.



LEVEL 9



The Art of Online War

O K, champ, sit yerself down. You made it through the first 8 levels with most of your spleen and liver intact. You got the hardware you need, you're hooked up, you know what rocks and how to get it. Yeah, you own the Web—yer one tough hombre. Now it's time we have a serious talk about the meaning of life, just you and me. Hey, don't start flapping yer trap, kid—this is what we call a one-way conversation. I talk. You listen. You learn. Or you die.

Here's the deal: For the true warrior, multiplayer combat *is* the meaning of life. Call it DukeMatch, call it DeathMatch if you gotta; either way, all your training and preparation, everything from that mewling and puking infant stage 'til now—it all goes into those few pure seconds of head-to-head bloodshed. They want you dead. You want 'em fragged. Someone's gonna be disappointed. You can *feel* the blood pumping through your veins. Pull the trigger and you can *see* the blood spilling from their sides. Turn and strafe—there's another bastard to yer right. Drop him with your chaingun while he fumbles for his pipe bomb. Smile and reach for a cold one, but make sure you keep one hand on a weapon. Naaah—it don't get any better than this.



GIRD YOUR LOINS

Sure, death awaits us all, but that's no reason to punch yer ticket before the Grim Reaper comes along, whips out his monster scythe, and personally frags your ass. Even then, the true warrior exits kickin' and screamin. See, he knows that the only thing

better than taking your enemies apart piece by piece is that feeling you get when you're the last one standing.

Sounds pretty good, right? Well, there's a lot more to it than just having the fastest fingers in town. You also gotta have the right strategies and the best tactics.

Fresh out of strategies? Looking for a few new tactics? Hey, no problem. As always, Duke's got ya covered.

We'll start with strategy because it's dead simple. After that, we'll train on specific tactics. There's nothing like a little drill to get your brain wired up and your reflexes tight. And when we're done, you'll be ready to go head-to-head with Thresh himself.



DUKE SEZ

Yeah, I'm partial to Duke Nukem 3D, but this level don't play favorites. You can apply these techniques to any head-to-head first-person combat. And when your Quake enemies see their heads pop off and bounce down the stairs, just be sure to tell 'em Duke sez hello.

STRATEGIES FOR THE ONLINE WARRIOR

Your goals in multiplayer combat are real straightforward: First, you gotta survive. Then, you gotta kill yer enemies. In just a sec, we'll take a look at what this means on the battlefield. First, though, you gotta be clear on the differences between battling true warriors and taking on an overgrown calculator.

DIFFERENCES BETWEEN HUMAN AND ARTIFICIAL INTELLIGENCE

Pop quiz, punk—what's the best thing about computers? They're fast? Not always. They're cool? Keep trying. They're predictable? Nice shot, grasshopper—you sunk my damn battleship. Computers are predictable as hell. Spend a little time with 'em, and you'll learn to guess what they do next. These boxes aren't about to stand you up at the altar—hell, you shouldn't be marrying 'em anyway—and you can pretty much set your watch by how often Windows 95 goes ka-boom.

Now, predictable is great when it comes to using computers as weapons, targeting precise coordinates, that sorta thing. But killing predictable bad guys ain't much more challenging than target practice.



In practical terms, the biggest difference between slaughtering the computer and beating other humans is that you *know* you'll be able to outsmart the machine in certain situations just by manipulating its patterns. Once you find those patterns, you can play through each level of a game against the machine with your brain stuck in neutral. Work out where the alien scum are and how to kill 'em, and you can go to the same places and wipe 'em out in the same exact order all damn day long. Lemme tell ya, this gets old quick.

With humans, you're dealing with real intelligence. Well, with some of 'em, anyway. And you got to figure that into your attack plan. Playing against the machine and its monsters, you can usually fire a shot into the right zone, or step over a trigger spot, and you just know they'll come pouring out, eager to chow down some of your ammo. They have to—the program's written that way. Check out Shot 9.1 if you're not sure what I mean. Playing against live people, you fire that shot to provoke a little action, they should be smart enough to lob back a pipe bomb right where they figure you'll



SHOT 9.1A: Bring in your dead.



SHOT 9.1B: Like the Roman gladiators used to say, "*Ave, Duke-o, morituri te salutant.*"

be standing. Or they'll just wait to see if you're gonna show your ass around the corner so they can ventilate it with a few dozen nails. And that's the fun—there's no way to know exactly how they'll react.

Another big difference is that in a DukeMatch, you don't get to stop for breath. Stand in one place and your enemies will move in for the kill. These aren't grade-Z aliens and mutants, waiting for you to stumble on 'em. They're sneaking around to outflank you so they can plant a rocket where the sun don't shine.

They'll also be smart enough not to attack you if they realize they aren't packing the right weapons. When they hear you coming, they can decide if they've got the hardware they need to take you on or if they should haul ass in the opposite direction. Get ready to miss those moronic kamikaze runs that make the less evolved monsters such a delight to mow down. If they see you letting loose with an RPG, they'll *learn* what you're packing and come back with enough firepower to get the job done.

Likewise, it's harder for you to be sure exactly what you're up against. Any scrub who's staggered bleeding through the first couple levels of Duke knows what heat each of the monsters pack and what kinda pain that'll inflict if it connects. But in a

DukeMatch, you won't know what the other guy's carrying unless you've seen him pick it up or whack someone with it. Sure, if you get close enough, you can use Show Weapons to see his halo of lethality, but if you get that close, odds are you'll end up sampling that weapon firsthand.



You starting to get the idea? It's like this: In online combat, you don't just wander around hoping whatever trouble you run into will roll over and play dead. You gotta know some moves.

You gotta get some skills. And you gotta be ready for what I like to call. . .

TACTICAL DUKLEAR WARFARE

Next up, I'm gonna blaze through the basic tactics you'll need for success in battle. You'll recognize some of these techniques from *The Dirty Dozen*; others are straight outta *Dirty Harry*; there's a couple that Ripley and Bishop would be proud of; there's even a few from John Connor himself. Yeah, Duke ain't afraid to pick up tricks from other warriors, but you'll find I've applied my own little twists to hone these tactics for martial combat in the

virtual world. For experienced mercs, some of this stuff may seem pretty obvious. Don't matter—read it all and remember *why* you do what you do.



DANGER ZONE

Even DukeMatch virgins should already know that some weapons aren't suitable for close combat. These include the RPG and pipe bomb in Duke, the rocket launcher in Doom, and the rocket launcher and grenade launcher in Quake. Only time to use these long-distance weapons up close is when you're staring down the muzzle of something that makes the prospect of fragging yourself pale in comparison. Then again, if you've grabbed an Invulnerability artifact, nuke away.

Rule 1: Shoot First; Sweep Up the Shit Later

When your ass is really on the line, the first rule of online warfare is shoot first and don't bother asking questions later. If it's do-or-

die, you gotta work with whatever weapon's in your hand. That's one big reason *not* to wander around holding an ax or pop gun when you've got a chaingun weighing down yer gunny sack. If you do get ambushed while seriously underarmed, give 'em a couple hits with the Mighty Boot, dart out of sight and shoulder your most powerful close-combat weapon, then get back into it as heavy as you can.

Rule 2: Use Your Ammo Wisely

The second rule is to keep a close watch on your resources. Match your weapon to its intended victim *when you have time to get it right*. If you know a shotgun round will do the trick, don't blow a rocket or a blast of your BFG. 'Course, like the first rule sez, if you don't have the time to be picky, let 'em have it with whatever's up an' pointing. In most every situation, you gotta make the first hit count: If you can floor the other guy before he even touches the trigger, you ain't got much to worry about.

Rule 3: Eat Hearty

Like the fighter pilots say, you gotta keep your energy high. They mean you gotta have enough airspeed to give yourself maneuverability and keep from stalling. In head-to-head combat, this translates into chowing down all the health you can handle, all the weapons you can carry, and all the armor that you can pack on. Grab those portable medkits when you can; carry 'em with you and pop 'em when you need a boost. With your health and armor high, you can ride out an attack that would otherwise have made you under-taker's meat. And while we're talking about making the most of what you've got, make sure you use any extra equipment you find. God didn't make jetpacks and scuba gear just so you could look like Quasimodo.



KICK-ASS TIP

A lot of games feature one-strike weapons— after the first hit, the battle's over. If you think your opponent is packing one of these sonsuvitches, grab one for yourself or be prepared to wage serious guerrilla warfare, described in more detail a little later on.

Rule 4: Make Like a Shark—Move or Die

Moving targets have more fun than dead targets. If you're scouting around, stay in motion as much as possible, especially after teleporting or jumping down into new areas. If you take two seconds to stand still and swivel around, you'll be rewarded with a real good look at a smug bastard right before he lets his ammo fly.

Rule 5: Avoid Face-to-Face Confrontations

First few times you play DukeMatch, you'll find nothing's more fun than shooting the shit outta someone at point-blank range. Shot 9.2 hands out an example in glorious rip-o-rama. You get the whites of their eyes, the surge of adrenaline, and then the feel of their blood as it spills across your face. Can be addictive, especially if you learn to like the taste.

Once you get over that and get tired of dying half the time, you'll learn to avoid face-to-face confrontations and dig the satisfaction of blowing the crap out of someone at greater distance and in ways that involve skill as well as speed.

Rule 6: Reconsider Frontal Assaults

You know what they say 'bout fools rushing in? Sure, there are times when you should charge directly through a courtyard or open space, or into a room, but remember, suicide is the most sincere form of self-criticism. If you can wait a while before terminating your miserable life, learn to curb yer natural tendency towards frontal assaults.

If you *do* need to rush an open space, lay down covering fire first. Make sure that



DUKE SEZ

If you've ever seen *Unforgiven*, you know that even with Rule 4 on the books, there're still times when you gotta stand yer ground, aim steady, and pull that trigger. It all depends on the situation (are you lying in wait or moving into a new area?) and your weapons supply (machine guns are real effective while you run—tossing pipe bombs while in motion is a little more tricky).

any alien scum out there are cowering behind the pillars or furniture before you scorch through the area. And like I told you back in Rule 4, if you gotta be a target, be a moving target.

If you're operating in a fire team, have your teammates lay down covering fire when you need to rush a door. Just make sure they



SHOT 9.2: Nothing like a little close combat when you're fresh to the game.

don't shoot the shit outta you in the process. Drill them first to make sure they understand the general procedure for tackling these problems. I'll brief you on fire-team maneuvers before this level is done.

Rule 7: Scout Rooms for Enemies

Normally, if you wanna find out if a room is empty or not, you probably stick your head in, maybe even knock on the door first. Ordinary, social interaction; no problem. You do this during an online battle, and if the room is occupied, you'll find your teeth piercing your ears and your hide decorating the walls.

So you gotta proceed with more caution and subtlety. Coupla things you can do here: First, you can pop in and out, see if you get a bullet in the face or fireballs



**KICK-ASS TIP**

Even better than having helpful monsters kill your opponents is getting your opponents to kill each other. Don't waste time trying to set this up—but if you run into a situation where you can draw one opponent's attention to another, take advantage of it. Enjoy the entertainment for a moment or two. Critique their technique as the bullets sear through their flesh. Then, once they've weakened each other, step forward, waste 'em both, and roar like a man-beast.

**DUKE SEZ**

Worst-case scenario is getting killed and then materializing right where your opponents can frag you. Getting fragged at all is anything but cool; getting fragged twice in quick succession is the true sign yer a weak-kneed punk. If you get fragged and rematerialize within spitting distance of one of your opponents, don't wait for him to recognize you—get the hell outta there. Once you're safely outta sight, grab some weapon, some armor, and some ammo, and get your ass back into battle.

ricocheting off your ass. If you're gonna do things this way, you gotta be quick. By the time your enemy charges through the doorway, you'll have pulled back to a position of strength, where you can start puncturing their anatomy using the best weapon you got.

Second option—much better—lob a grenade or pipe bomb into a room to find out if anyone's home. Even if you don't do them much damage, you should startle the shit outta 'em. When they start to come after you, hurl another grenade or bomb at 'em as they get within striking distance. Or quickly switch over to a chaingun or nail-gun that can throw 'em back against the wall. Follow up your attack with shotgun blasts to make sure that your dazed and confused

victims don't accidentally stumble into a medikit, atomic health unit, soulsphere, or other power-up while trying to work out what hit 'em.

Rule 8: Make Others Do Yer Dirty Work

Creativity counts. While you can convince the computer's monsters in some games to turn against each other, it's much more fun to have them kill one of your opponents—or help you kill him.

This is particularly useful when someone's pursuing you and you know you're out-gunned. Say you're being hunted in Doom, look to unleash a wave of imps or sergeants on your hunter by opening the right door or firing one shot into an appropriate place, then makin' yourself scarce. When the chump slows down to defend himself, grab a weapon, slide back around the corner, and pump some lead into his distracted ass (see Shot 9.3). Once he's fried, you can either deal with the remaining monsters yourself or head out for fresh territory, leaving the beasts alive to harass other saps.

Rule 9: Know the Terrain

Doesn't matter what game you play, know your territory and learn to take advantage of it with the same precision you apply to the rest of yer weapons. Memorize where you'll find monsters, traps, and power-ups. Think through your favorite maps. Learn the



SHOT 9.3: Distractions in combat prove fatal, as this good-lookin' punk is about to find out.

**DUKE SEZ**

All these basic tactics can also be applied to unknown territory. You just gotta be ready to adapt a whole lot faster.

shortcuts, find the hideouts, and at the most basic level, burn what-leads-where into yer reptile brain.

Identify entrances and escape routes. Where can you jump to safety? Which

teleporter can drop you right behind your enemy? Are there walls and pillars you could use as shields or deadly strafe lines you might have missed? Any high ground perfect for sniping or corners that scream for an ambush? 'Course, there's a ton more to strafing, sniping, and ambushing—that's why I'll cover 'em in more detail a little later on—but it all starts with Rule 9.

Rule 10: Exit Stage Right, Pursued by a Bear

If all you've got is your fist, the ax, or the Mighty Boot, you gotta be realistic about how much you can accomplish in *mano a mano* combat with someone better armed than you. This goes in spades if you're injured.

There's no shame in running when the alternative is to die like a pathetic worm. And there's plenty of honor in battling back from near-death and then showing up, rocket launcher in hand, to take it to your foes.

Rule 11: Go with Yer Gut

Yeah, this list goes to 11. You wanna make something of it?

Last thing you gotta think about is that ya shouldn't be thinking too much in combat. Zero's Paradox, I call it. Don't count on your brain to bail you out under fire—you won't have time. You gotta practice until your body instantly reacts to any threat with a lethal dose of violence.

COMBAT SKILLS

In this section, we'll drill on the main skills you need to survive. I'm assuming you already know how to move forwards and backwards, and how to turn left and right. You also know how to jump in Duke and Quake, how to look up and down, how to run, and how to duck. Make sure you own these fundamentals. Spend *lots* of time running and working on precision jumps—they'll save yer life.

Keyboard Skills

Technically, you can play Duke Nukem, Quake, and Doom with the keyboard, a mouse, a joystick, or a combination of the mouse and keyboard. Duke uses the keyboard with the mouse. Here's why:

Sure, joysticks rule for flight sims, that sorta game. And some of the weapon-center combo joysticks and keypads that Phoenix and Gravis make are worth a try for combat, too. But as a rule, you end up spending too much of your time correcting and overcorrecting movements that go wild. Duke sez leave this sucker for the pilots.

Most scrubs start out just using the keyboard. No crime there—the keyboard's a great way to learn to play the game. Just a little practice and you can get solid movement control and aiming out of the arrow keys. You wanna strafe properly (more on this in a sec), you'll need the keyboard. You wanna send insulting messages to the other players, you gotta use the keyboard. The keyboard ain't optional.

Want to take it to the next level? Reach for your mouse. You've probably been using this for years, building up skills you thought would never matter in the real world. Guess again, punk—the mouse makes a wicked precision tool for aiming, moving, and scop-ing out the scene during first-person combat. Mebbe the army oughta take a look at this baby. Assign one button to move forward, the other to fire. Or one for forward, the other for back, and fire using the keyboard. Then mess around with the mouse sensitivity controls 'til you get it just right. By using the mouse with the keyboard, you get the advantages of both and the disadvantages of neither.

Try combining mouse aiming (see Shot 9.4) with keyboard controls, and you've got your-self hot-shit maneuverability *and* lethal aiming capabilities. Go on and try it—it may take you a few hours to adapt to it, but once you've mastered this trick, you'll never go back.



KICK-ASS TIP

Spend lots of time *between* battles customizing your controls. Experiment with different key and button assignments 'til you find the setup that turns yer hands into precision killing machines.

Strafing

An amazing number of suckers never master strafing. I can see some of you aren't even sure what "strafing" means. First thing that comes to mind when you hear the word is probably fighter-bombers strafing villages in 'Nam, Al Capone's boys strafing

their rivals from the running boards of black Packards, stuff like that. Usually, strafing means sweeping an area with fire, normally at close range. In DukeMatch, strafing means stepping sideways, usually (but not necessarily) while firing.

Fire without strafing and you'll shoot in the same direction you move. Move forward, fire forward. Move to the left and your aim shifts 90 degrees while your side is completely exposed. Not good. By strafing, you can move left or right while delivering a stream of lead right where it's needed in front of you. Excellent for covering quick escapes. Even better for tearing your enemy several new holes. Strafe left, then strafe right—back and forth several times—time it just right and you can dodge their rockets while makin' 'em bleed. Use your terrain properly and lay down a healthy line of pain while protecting yourself at key moments behind a staircase or pillar.

Strafing works well both up close and from a distance. Mess around with different weapons to see which ones give you the most bloody results. Good strafing doesn't guarantee victory. Bad strafing pretty much guarantees a quick death. Spend time on



SHOT 9.4: Use mouse aiming to draw a bead on your victim.

this skill. For most people, it don't come naturally. Get it down and both you and yer opponents will see the results.

Your basic strafing movements are Alt + ← and Alt + →. Lots of games go beyond these, providing, say, left strafing with the comma key and right straf-

ing with the period key. You don't need me to tell you that getting the job done with one finger is better than having to use two. Check the keyboard movements in the game yoOu're playing for sideways movement and learn what special keys you can use for special maneuvers. Take advantage of 'em all, before your enemies show you how it's done. Shot 9.5 is a situation where strafing can save your ass.

For more sophisticated opponents, learn to circle-strafe. To circle-strafe clockwise, press the left strafe key while pressing the right-arrow key; to circle-strafe counterclockwise, press the right strafe key and the left-arrow key. Get this one down and you can lock into a burning ring of fire around your victim. Use the mouse to keep your weapon trained on him while you deliver the goods.

Shoot Straight—or Die

High among the crucial skills for DukeMatch is the ability to shoot fast and straight. It don't get any simpler than this: You gotta be able to hit your targets whether you're standing still, running full-on, or jumping down from the roof—and whether your targets are standing still or moving.

If you're tempted to play online before you get your shooting up to scratch, your best bet is to get into positions where you can snipe opponents before they spot you.

Sniping

Successful sniping has two elements: a solid place to shoot from and a gunner with decent aim. Sniping's not the hottest skill in DukeMatch, but there are times when it comes in real handy—especially when yer low on ammo and you gotta make each shot count. Say you hole up in a high place and pick off some poor jerk waaaay down below



KICK-ASS TIP

Practice strafing with lower-level weapons. If you're outgunned and cornered, selective strafing may be your best chance for survival. And you don't have to be distributing ammo—strafing while not firing is a kick-ass way to maneuver into new areas and around corners. Get used to strafing past unknown hallways before you charge in head first.



SHOT 9.5: Strafe—or die.



DUKE SEZ

You'll also hear some folks spouting this lunatic combat Zen bullshit—if your opponent's out of ammo, you gotta throw aside your weapons and fight him *mano a mano*, crap like that. Listen up: If that didn't go out with the Brits at Yorktown, it sure went down with Custer at Li'l Bighorn. If your opponent's got no ammo, Duke says frag the fool 'til he learns not to go droolin' around downtown without any heavy metal. Won't take him more than a few years to learn that. In the meantime, you got better people to kill.

who has even less clue that you're there than the Prez has how to fix the deficit, you got yerself a valuable skill you'll want to show off from time to time.

Some folks may whine that sniping's against the ethos of DukeMatch. Ignore 'em. Duke ain't got no time for words like "ethos." You want ethics, go see a lawyer—they'll cure you soon

enough. Duke says, if you can blow anyone away, you should. Call that Duke's Law if you want—*plomo o plomo*.

ZEN AND THE ART OF THE AMBUSH

If sniping rubs the combat-zen folks the wrong way, then ambushes scrape the skin right off their bones. These clowns are flying with half a wing. The ambush is one of the oldest tactics in history—and one of the most successful. It's also a fundamental part of guerrilla warfare—an excellent equalizer for combatants who are runnin' low on hardware—and just a helluva good time for the guy with all the goods. Name me one military leader who failed to use the ambush effectively and I'll show you a stinking corpse.

You probably already have an idea how an ambush works—you hide yourself someplace and wait for yer victim to show up. Then you whack him. Find another ambush site, rinse, and repeat.

Preparing for an Ambush

First, snag yourself suitable weapons for the ambush. Most effective ambushes are close-quarters work, so you gotta be careful with long-range weapons like the rocket launcher or delayed weapons like the pipe bomb. Most times something more intimate or immediate is what you want, something that's lethal at about the same range as your breath. A super nailgun or combat shotgun will almost always do the trick. A plasma rifle is



KICK-ASS TIP

Check out the section on "Picking the Right Ambush Site" for some advice on finding the best locations. Duke digs targeting distant doorways, pick-ups, and kick-ass weapons. Gotta make 'em pay for entering that hallway and grabbing the bait.



DUKE SEZ

You say you wanna try an RPG or rocket launcher for a long-range ambush? Solid thinking, kid—a rocket delivered from a distance can't be beat—but you've got your terms scrambled. By definition, that's sniping—an ambush takes place at closer quarters.

hard to beat. If you're cornered by an unsuspecting foe, you may even be able to use the ax or the chainsaw, but don't rely on these as your primary weapon in an ambush. I don't recommend the Mighty Boot for an ambush either, unless you also have the freezer handy to immobilize the bastard before you kick him into quivering pieces.

Last point in preparation for an ambush is being ready. When yer setting up an ambush, *do not* send messages to your opponents. Keep your weapon in hand and your finger on the trigger. Got it? You don't scratch your ass. You don't pick your nose. You don't do *anything* that'll allow people to sneak up on you without your a) noticing them, and b) being able to frag them before they can squeeze and fire.

You may even want to squander some low-level ammo on non-targets to persuade your opponents that you're fighting something somewhere rather than lurking like a bastard in wait for them. Again, be careful to have your heavy-duty weapon loaded and aimed by the time they show up.



Getting Your Victim to Show Up

You want an ambush? You need a victim. What if you held an ambush and no one came? In a two-person DukeMatch, if both of you set up ambushes and wait for the other, nothing much is gonna happen for, ooh, about three million years. Gets tedious fast. (You might pick up from this that the ambush shouldn't be your only combat tactic.)

Depending on the level map, you may be able to control how your enemy moves. In smaller levels (or crowded situations), you can herd 'em like dumb sheep to the slaughter. Flush 'em out of hiding with explosives from above. Corner them down dead-ends, then set up your ambush around the corner. The trick here is moving them around while still maintaining the element of surprise. If your victim knows where you are, your ambush is worth less than a book of matches in the Fourth Circle of Hell. It all comes back to mastering Rule 9—knowing the terrain.

Choosing the Right Ambush Site

Good ambush sites are all around, as long as you know what to look for:

- ⊕ At the most basic level, you want a situation where you'll get the maximum number of strike opportunities, while holding onto the best possible defensive options. You could trap him in a corner he can't squeeze

out of. Or you could look for a site that locks your enemy in place, but leaves you an easy escape route in case things don't go the way you want 'em to.

- ☢ Traps, doors, and other stuff that send out a sound when touched, can let you know when the dead man approaches.
- ☢ Look for pick-ups, traps, monsters, pin-up posters, and other stuff that'll distract your enemy while you open fire. Check out Shot 9.6 for an example of a good ambush location.

Bottom line: You need a place where you get a serious tactical advantage. You also need a place your victim's gonna go to. Just like in sniping, look for bait that's likely to attract scum-sucking algae.

One good site for an ambush is at the end of a level. If you start off a DukeMatch level and find yourself near an exit, you might wanna arm yourself and wait for someone to come along for you to shoot at. Best point about the exit is you can be sure no one's gonna sneak up behind you and cream your ass. Worst point is that if they've been through the rest of the level and not seen you, they could be smart enough to work out where you are. Then they can sew you up in a trap, and you'll be backpedaling to save your scrawny anatomy.

Other classic sites for laying an ambush include:

- ☢ a door
- ☢ a corner
- ☢ a room

We'll go through these one by one.

THE DOOR AMBUSH A door's not the greatest place to set up an ambush, but it'll do in a pinch. To make it outta there alive, check out the following tactics.

- ☢ Tactic #1: When you're hiding behind a door, be ready in case anyone chucks a grenade in to flush you out. In these cases, your best move



SHOT 9.6A: Classic ambush location: The guy's going for the RPG, but the chick'll distract him from looking over to where you're hiding below the bar.

may be to take cover behind something substantial enough to shield you from the blast. Find this object *before* you lurk near the door.

- ☛ Tactic #2 is to identify another exit from the room and be ready to clear out. The disadvantage to this tactic is that your attention may be focused on your escape rather than on the ambush you're planning. Check out Shot 9.7. Your back's safe here, but there's no way out, so you gotta stay sharp every second 'til your victim arrives. One other quick point here: It's usually slower for a right-hander to turn and fire to his right than to his left. Look to use that to yer advantage.



SHOT 9.6B: Note that yer far enough away to not get hit by the blast.

- ☢ Tactic #3 is, uh, not great. It involves charging the door as soon a grenade or pipe bomb comes in, shooting full bore. If you're gonna try this tactic, why wait 'til the artillery zeroes in on you? Smarter play is to watch by the door for some idiot cruising along, then shoot the hell outta him before he can start to do you damage. Even better, set up a competent ambush somewhere else . . . keep listening.

THE CORNER AMBUSH In the corner ambush, you hang out by the corner you figure your victim will be coming around. Classic mugger maneuver. Has a couple of advantages over the door ambush. First, you almost always got a quick way out by sliding through in the other direction. Second, you can see a bit more of what's happening than if you're stuck behind a door. Then again, you got the disadvantage that



SHOT 9.7: Solid ambush positioning, but you got nowhere to go if you're dozing when your victim approaches. Keep that finger on the trigger.

you need to watch your back even more closely—especially if more than two people are hunting in this level.

THE ROOM AMBUSH The room ambush is a little different from the door ambush in that you try to get yourself a decent view of what's going on. Hide in a convenient space. Doesn't have to be a room—it can be a nook, or cranny, whatever. Usually you'll wanna be in darkness—no point in exposing yourself in broad daylight unless you've got excess blood in yer veins and you just gotta let some of it out. When your victim comes along, cap him.

Dealing with an Ambush

'Course, it won't always be you doing the ambushing. Sooner or later, the Mighty Boot's gonna be on the other foot, and you'll find yourself fighting for yer life. So you

got yourself a pressing question: How do you deal with an ambush? Well, lessee if we can draw some lessons from what we just covered.

First thing you gotta do is learn to anticipate the ambush. Like I said, sooner or later some mother's gonna try to ambush you, so be ready for it. But that won't do you much good unless you can recognize an ambush before the bullets start to hit.

"So how d'ya do that, Duke?"

Well, think about it for a sec. You'll realize that if you've been playing Duke, or Quake, or Doom against the computer, you've been dealing with ambushes *all the time*. Walk through a doorway, trip a switch, and a couple of commandos burst out pouring hot lead in your direction—that's as good as an ambush any day.



So—when do you anticipate an ambush? Right—whenever anyone could possibly ambush you. Start up an online battle, and get ready to be on yer toes 'til your computer powers down.

Next, ya gotta be able to deal with an ambush. You're best equipped to deal with an ambush if you're fighting in a fire team, as we'll see in a couple minutes. But even if you're on your own, there's a few tricks that can give you back the edge.

Let's look at those three typical ambush situations again from the other side and I'll show ya the best ways to deal with them.

THE DOOR AMBUSH Never walk straight through a door unless you're planning an early retirement from the field of combat. If you're playing in fire teams and you gotta get someone killed, send a point man through before you. But much better, open the door and step back smartly to the side in the best cop tradition. Fire a shot through the doorway. Explode something inside—a barrel of slime, a fire extinguisher, a gas cylinder, or whatever—to flush out the inhabitants. If you've got a pipe bomb or grenade to spare, chuck that through the doorway and see what kinda reaction it gets. Death is a favorable reaction here.



If you can't send a point man in first, soften the inhabitants of the room up with a choice number of rounds before making yer entrance. If you're in a fire team, get a team member to lay down covering fire as you burst through the door. Go through blasting; go through at an angle (if possible), and go through as fast as you can to move your carcass past the main ambush zone. Make sure your ambushers have to turn to train their weapons on you—that'll slow them down enough for you to waste them. And strafe, baby, strafe.

THE CORNER AMBUSH The corner ambush is simple enough—someone's waiting around the corner for you with a little gift. This can be any kinda corner, from the corner of a room to the corner of a building. Main point is, you can't see around it.

The solution's simple enough. If it's the kind of corner you can go 'round the other way to outflank whoever's waiting for you, try that. Otherwise, ready your shotgun or plasma rifle, then slide round the corner firing full in their face. That'll flatten most opposition.

If you're playing against the computer rather than playing against humans, you can also try tempting your ambusher round the corner by firing a couple shots at an angle around the corner without exposing yourself. If whoever's waiting falls for this, you got yourself a little ambush of your own. Bear in mind that no sentient being will ever buy this one—they're gonna wait for you to show your ugly face, then blast your teeth out through your ass. Oh yeah—don't forget to strafe, baby, strafe.



THE ROOM AMBUSH Last of the three typical types of ambush is where someone attacks you from inside a room. Like I said, it doesn't have to be a room, just some enclosed space. Usually they'll be in darkness. Once again, you gotta recognize the threat so you can move to neutralize it swiftly and effectively.

Trick here is to turn the ambush to your advantage. I've already told you how to handle this type of situation. If you've got a pipe bomb or grenade to spare, use it. The walls of whatever your enemy is hiding in will magnify the blast. If you don't have a projectile explosive device, you may be able to flush him out with a few well-placed ricochets. While yer at it, strafe baby, strafe.

TYPE 'EM TO DEATH

The standard way to talk to other scrubs in a DukeMatch during online combat is by using simple typed messages. (If you and your opponents all have DSVD modems, you may be able to speak as you play, but this is the exception, not the rule. Didja forget DSVD already? Feel free to haul your butt back to Level 3 and wise yerself up.) Here's how it generally works: Type **T** to get into text mode, then type the message and press Enter to send it. What you typed then pops up on other players' screens. Couldn't be simpler. Once you've mastered that, learn how to send messages to individual players.

In cooperative play, you gotta use communications to control your fire team members. You'll need to be fast on the keys to communicate quickly enough to keep things running in order, so practice beforehand. Use any macro facilities the game gives ya to set up ten or a dozen preordained messages that you can blast off with a quick keypress. In DukeMatch, use Remote Ridicule to distract your opponents. If your opponents try this on you and you start feeling the effect, turn messages off.

**KICK-ASS TIP**

If you've got a good feel for sending out basic insults, you may want to move up to all-out terror. Mindgames aren't just for fun anymore. Timed just right, they can also be lethal.

In person-to-person combat, you'll usually use this function to hurl taunts and insults at the bad guys and make 'em screw up. If you can sneak up on them and plant a rocket in their ribs while they're typing a vicious response to you, it'll all be worth it.

FIGHTING IN FIRE TEAMS

For the true thrill of online combat, you may want to try fighting in fire teams. A fire team is made up of 2, 3, or 4 combat veterans fighting together. Like I told ya back in Level 1, there's power in numbers. With a good fire team, you'll tap into that team's combined experience and heavy-duty firepower. 'Course, with an untrained or inexperienced fire team, you'll be weighed down by with 600lbs of useless human flesh that could easily mistake you for the enemy.

DUKE'S DISCLAIMER

Fighting in a fire team requires skill, precision, and timing. If any of you shoots the shit out of your own side at the first clash of armor, he'll be persona grated before the ricochets stop whining off the walls.

The problem with fire teams is the amount of time you gotta invest in teaching your teammates how not to accidentally perforate you. Even if they pick this up quick, it'll take even more time to whip 'em into good enough shape where they can move as a

**DUKE SEZ**

When the technology improves—hey, online combat's gonna rock, and you'll probably wanna bone up on this online commanding officer shit. But 'til then, don't forget the limitations of *virtual* fire teams.

unit and execute maneuvers. And even after all that, one well-placed pipe bomb can knock the shit outta your hot-shit patrol.

Think *Full Metal Jacket*. Think of the amount of time a football team takes

to perfect its tactics. Then transfer that to the world of Duke and Quake, where you're not even fighting in VR yet. You can't see everything. You can't hear everything. And you probably can't even talk to the other members of the team without stopping what you're doing. This makes commanding your way through an online combat situation nearly impossible.

SERIOUS FORMATIONS

Alright. If you're still serious about fighting in fire teams, here's the stuff you gotta know:

Moving in Team Formations

First, you gotta learn the main formations for moving in fire teams. Every man Jack in every patrol has gotta know this stuff, so pin yer ears back and listen good.

In 'most any formation, you're gonna need to assign positions so people know where they're supposed to go.

- ❁ First up, you got your *point man* leading the way. You wanna check something out, you send the point man to do it. Don't follow him too close—he needs to be able to back up at full speed when he runs into anything he can't take care of on the spot.
- ❁ For standard military tactics, the fire team leader is *never* the point man or the rear guard. You're in command, so everyone else gets to be shot first. Only exception is in a two-man team, in which case the fire team leader takes the rear-guard position.



- ☛ Last up, you got the rear guard. This is a less dangerous position than the point man, but whoever you place here has to be ready to guard your collective ass with his life. Remember that he's covering a wider field of fire than anyone else in the team—all 180° to the rear of the team. The rear guard will often be walking backwards, so expect him to bump into you from time to time when you stop. Don't start fragging anything in the rear field of fire 'til you know your rear guard's already toast.

Column Formation

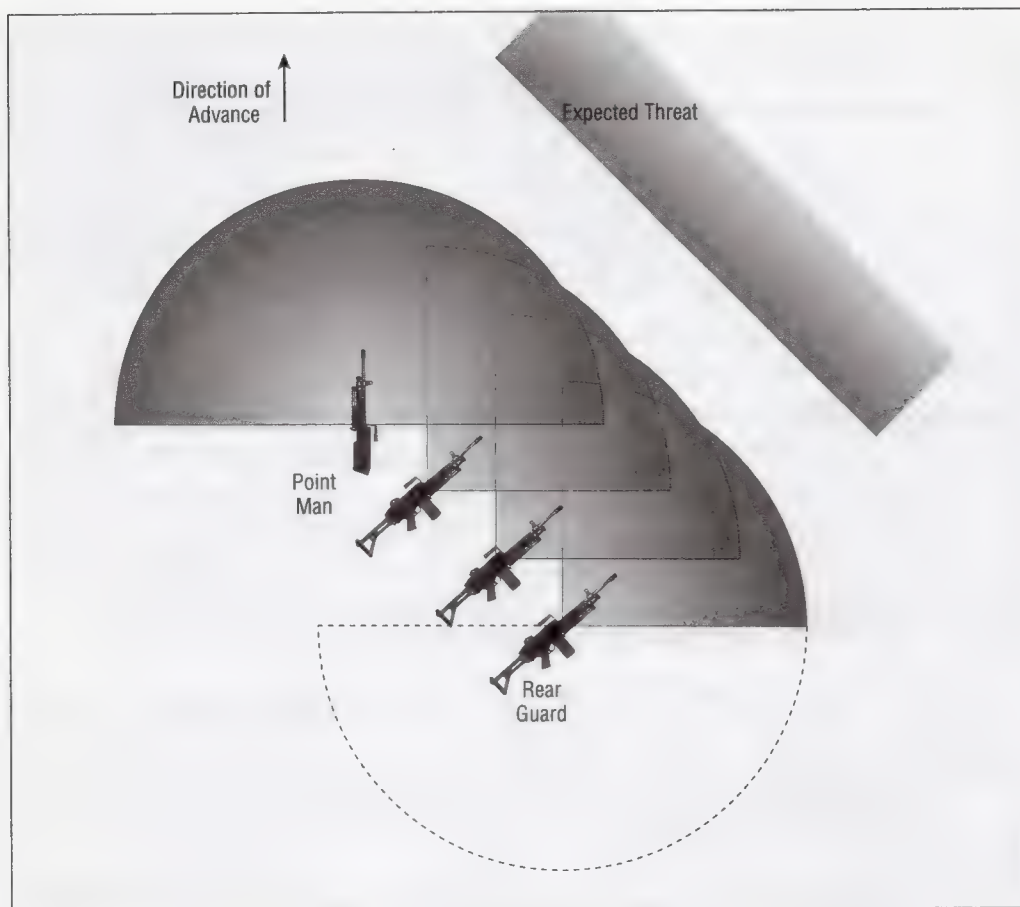
The column formation did right by military leaders from Julius Caesar through Patton, but in DukeMatch, it's a formation to stay away from under almost all circumstances. New recruits will tend to fall into the column formation because it's what they learned in the school playground, but anyone who walks a column into an ambush soon learns—if he lives—that the column is one of the quickest ways to make your fire team real vulnerable, real fast. There are three main problems with the column:

- ☛ The point man can't retreat unless the whole column retreats.
- ☛ The guys in the middle of the column have a pathetically small field of fire (unless they mow down the point man first), especially in confined quarters like a passageway.
- ☛ The rear guard is marching backwards, so he's gonna bump into the rest of the team if they stop, as they certainly will.

Line Abreast

The line abreast is marginally better than the column, but still has serious weaknesses. Check out Shot 9.8 and see if you can work 'em out.

Right—everyone's moving forward at the same time and concentrating their fire on the front, so you're vulnerable from the back the whole time. Your left and right flank men need to keep their eyes peeled for enemies from these directions, so they'll be moving along forwards, sideways, and backwards all at the same time. The one or two of you in the middle are responsible for covering the central field of fire.



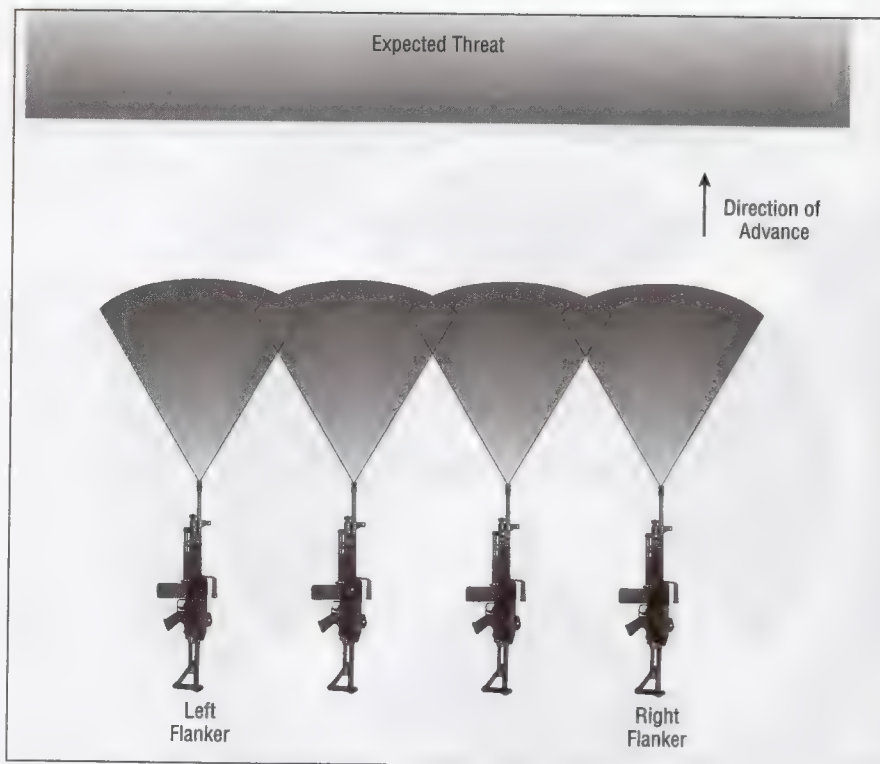
SHOT 9.8: Use the line abreast for frontal attacks, but make sure your flankers are watching both the sides and your communal ass.

The main advantage to the line abreast formation is that it's real tough for any idiot to shoot any other idiot in the back (or at all).

Echelon Right and Echelon Left

Next up in order of increasing usefulness, we got echelons, which technically divide into echelon right and echelon left. Let's start with the echelon right. Check out Shot 9.9.

You wanna use the echelon right when the main source of threats is in front of you and to the right. Think for a second through a couple levels of your favorite mayhem and you'll quickly work out how useful the echelon right can be.



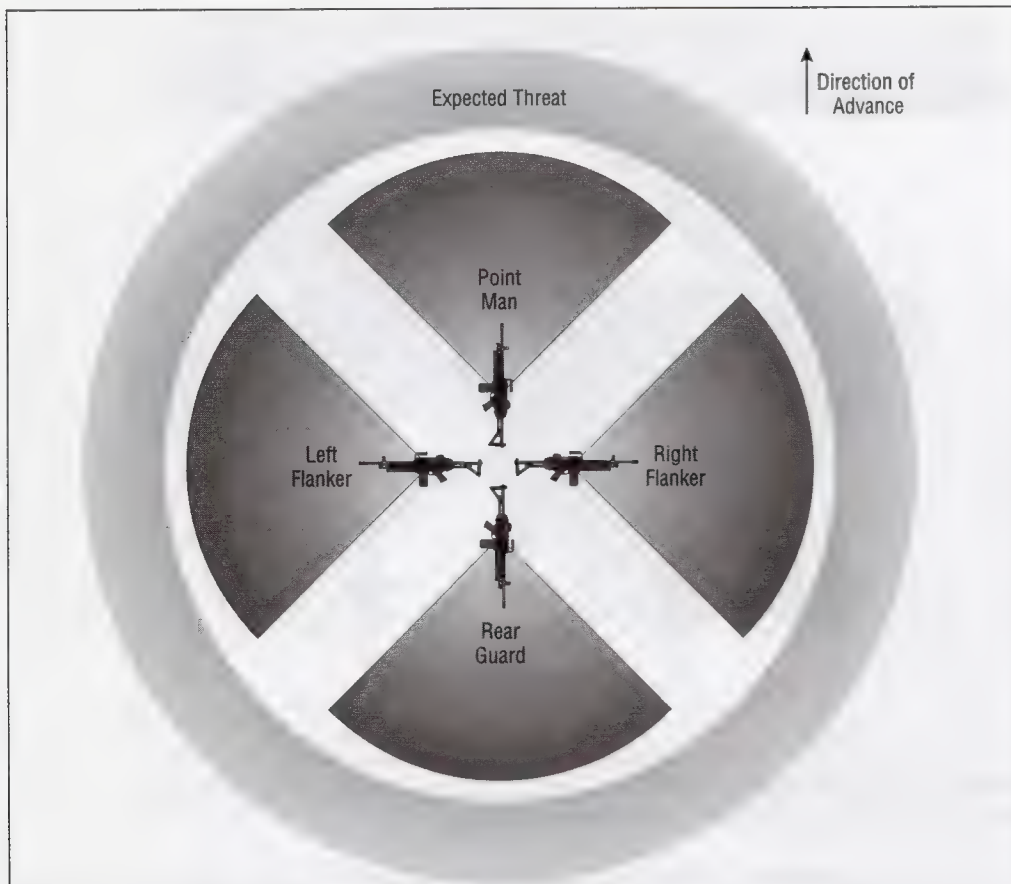
SHOT 9.9: The echelon right formation gives each team member a wider field of fire to counter threats from the front and to the right.

To get an echelon left, just flip the echelon right. Got it? Right—you use it for countering threats to the front and from the left side. Otherwise, everything works the same as in the echelon right.

Defensive Diamond

Top of the Duke's list of formal formations is the defensive diamond. You got a perfect defensive diamond in Shot 9.10. Point man facing forwards, rear guard facing backwards, guy left facing left, guy right facing right—could hardly be simpler.

Situations to use the defensive diamond in? Well, lessee: How about whenever you're being attacked from all sides and you need to make every round count? Try that one for a start. You'll quickly work out more uses of your own.



SHOT 9.10: The defensive diamond is the best formation to ride out the storm when you make the mistake of getting attacked on all sides at once.

You'll probably be tempted to try moving in the defensive diamond formation when you're under heavy fire. This is usually a great idea until you try to execute it, when people stumble over each other's loose shells and empty ammo belts, and the formation comes apart. If you can hack moving in the defensive diamond, though, my hat's off to ya: Some of you will survive. Keep an eye out for incoming pipe bombs and grenades, which can damage even the defensive diamond.

INFORMAL FORMATIONS: DECOYS AND DIVERSIONS

If these formal formations we just looked at are too complex for ya—and like I said, once you try them out, you may find they don't help much against the brutal speed of online combat—don't panic, 'cuz there are a number of maneuvers you can pull easily with minimal practice in a fire team.

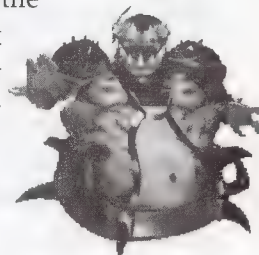
The Sacrificial Lamb

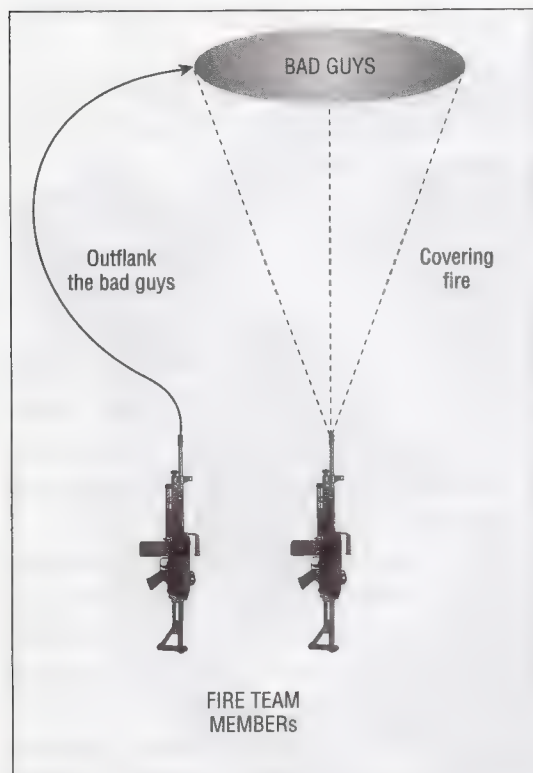
First up in your less-formal tactics, there's the decoy, otherwise known as the sacrificial lamb. You send the decoy out in the hope of bringing down the wrath of the ungodly on him. When the bad guys appear, you shoot the shit outta them. Sometimes you save the decoy; other times, the decoy buys the farm. If you're in a bad mood, you shoot the decoy from behind and then blame one of the other members of your fire team. Friendly fire my ass.

Depending on the command structure of your fire team, your decoy may not want to go. If this looks likely, you may have to stoop to subterfuge: While your unwitting decoy leads the way on an attack, fall back and take up a defensible position. Once he realizes yer not with him and he's encountered a force he can't handle, chances are he'll come runnin' with a few bad guys in tow for you to pick off one by one. This tends to call for accurate shooting, especially when your decoy isn't leading the pack by much. If you've planned ahead, you'll have a sniper in position, shooting down from above.

Return of the Prodigal Lamb

The sacrificial-lamb ploy may work only once with any fire-team member—sacrificial lambs who survive usually don't wanna give it another try. That means you have to graduate to the next stage, getting a team member to volunteer to lead the bad guys into an ambush deliberately. Big advantage of this method is that the prodigal's gonna know he's gotta duck when he's nearing the hot zone. When you use this maneuver, arrange your fire team carefully to concentrate your fire where the bad guys will show up. Again, try not to shoot your team members by accident.





SHOT 9.11: Use a flanking movement with covering fire to nail an enemy in cover.

amazed by how many jerks think they can just blunder around without knowing the basics.

If you gotta rush a room or an emplacement, make sure that yer buddies are laying down enough covering fire on your enemies to prevent them from unloading their weapons on you. If your team's advancing through an open area, have the team members take up positions to lay down covering fire on any talent that shows its head while one man zig-zags ahead to a safe position. Then he picks up the covering fire at the front while the team moves another man forward. Keep it going 'til the whole team's assembled in safe positions and ready to take a little more ground.

While I'm going through the obvious, here's a couple more points to ram into your skull: One, the guys laying down the covering fire do not shoot the guy who's advancing. This means they gotta use precision weapons rather than laying down a blanket

Caught in the Pincers

If any of the members of your fire team live through your decoy maneuvers, it's time to teach 'em how to perform flanking movements. Flanking is real simple: While the rest of you engage the enemy from the front—preferably using some decent cover—one or maybe two sneak up to the side and plug him. Check out Shot 9.11. This works real well on an opponent who's gone to ground behind something that protects him from a frontal attack.

Covering Fire Rocks

If you've been paying attention, you'll see that the one thing all these military formations emphasize is supporting each other with covering fire. This shouldn't come as a surprise to any of you, but I'm always

bombardment of the zone. Two, the guy who's advancing keeps strictly out of the firing line.

Get this simple stuff down and half yer battle is already won.

SITUATIONAL AWARENESS IS KEY

Like I said earlier, most of the time, DukeMatch moves way too fast and too fluidly for the serious use of military formations. You also got visual and communications problems getting in yer way. The best you can do is try to keep up your situational awareness. This means that you gotta always have a real good idea where the other members of your team are at. If you don't have this, you gotta have an uncanny ability to tell them apart from the enemy in about .5 seconds, using only their uniforms as guides.

Beyond this, you gotta keep your eyes and ears wide open. This is so simple it's painful to write, but you'd be surprised how many wannabe heroes don't even pay attention to what's going on around them. They don't look up or down, just straight ahead, as if everything's gonna happen right there for their

convenience, like on the idiot box. They don't listen for the sounds that tell them where the enemy's moving—the elevators grinding up and down, the doors moaning their way open, the water splashing as a body wades through it, the snap as a knuckle-dragger picks up a worthwhile weapon. And because they don't use this information to get a lock on their enemy, they wind up with a look of surprise on their faces as the nails splinter their ribs.



DUKE SEZ

If you're looking for an empty space where you can run through basic maneuvers, load up a solo game against the machine. Waste all the wildlife in a level, then use it for practice. Sure, it sounds kinda sad, but work on the basic maneuvers for a while and the results should make you smile real broad. Lots of games also let you run 1-player multiplayer games—quick access to yer own exercise course.

SURVIVAL OF THE FITTEST

Best thing about DukeMatch and DeathMatch is, this is strictly survival of the fittest. If you're good, you'll glow. If you're great, you'll shine like the damn sun. And if you suck, you'll look and smell like a pool of half-digested bloody puke sliming up the walls and floor.

Let's face it—tactics will help, but if you're too slow on the trigger, you're still gonna feel some pain. If you can't run, jump, maneuver, strafe, whatever, you're screwed, kid. Someone better than you is gonna nail you to the wall every time.

So how do you keep from being a trophy in someone else's bunker? Take a tip from Duke: *Be the best*. All you gotta do is turn yourself into the fastest, wickedest, sharpest-shooting badass on the street. That means playing the games. Spend time with some of the better monsters in town. Think Doom for a moment. Remember the Tower of Babel, where you finish the level by putting down a cyberdemon in an open courtyard? You have to lay upwards of 20 rockets on that son-of-a-bitch while he's blasting away at you with all he's got. This is a perfect level for practicing your footwork and your ability to handle the heavy artillery without springing a leak in yer precious skin.

When you play against the machine, ratchet up the skill level until you can take the worst it has to dish out. And when you go looking for your first head-to-head combat, try to find someone who's a little better than you are. Watch what they do, bide your time, then use it against 'em. Those poor bastards—they must have thought they were up against artificial intelligence.

That's it—Levels 1 through 9. You're online. You know how to dish it out. Now are you gonna sit here holding this book in yer trembling little hands? Time to boot up your machine and start kicking ass and taking names.

I'll see ya 'round, scrub, if yer real unlucky.

GLOSSARY

- 386** A real old computer chip or a PC stuck with a 386 chip. 386 PCs are great for target practice.
- 486** An old computer chip or a PC stuck with a 486 chip. Pretty soon, 486s will be great for target practice. Right now, they're great for game servers.
- address book** What an e-mail program uses to store e-mail addresses so ya don't gotta memorize 'em.
- analog** Not digital. Some standard analog modem speeds are 14.4K, 28.8K, and 33.6K.
- Archie** Stone-age Internet search tool for FTP sites.
- ARPA** Advanced Research Projects Agency—the group who put together the ARPANET for the Department of Defense.
- ARPANET** The computer network that ARPA built. Grew into the Internet, despite its lame-ass name.
- artificial intelligence (AI)** Computer-simulated intelligence. Something to practice on 'til ya get to test your skills against other humans.
- attachment** File attached to an e-mail message. Good way to transfer the goods.
- bandwidth** Amount of information you can squeeze through a wire in a given time.
- BBS** See bulletin board.
- beta** Pre-release software. Usually sorta working. Usually free. Some betas are an early look at cool stuff. Some betas suck.
- black box** Phreak tool for hacking phone lines. Stops the phone company from knowing someone's picked up a call.
- blue box** Phreak tool for seizing phone switching equipment. Allows phreakers to mess with phone lines and place long distance calls.
- bookmark** Navigator's way of tracking sites you tell it you like. Internet Explorer calls 'em *favorites*.
- Boolean search** Way of searching for info by using logical expressions like AND, OR, and NOT to say what you want. Ya might search for Duke AND Nukem AND Cool NOT Quake.
- browser** Program for viewing stuff on the Web. Today's best browsers are the Swiss Army knives of the Net—they handle e-mail, FTP, Usenet, gopher, and tons of other Net services.
- bulletin board (BBS)** Independent place you can call up with yer computer.
- cache** Hot-shit memory chips a computer uses to hold recent info it thinks yer gonna need again soon.
- cache file** Temporary file where a program stashes info it figures you'll want again.
- cache folder** Folder for storing cache files.
- chat rooms** Areas on online services like AOL and CompuServe where people hang out and talk. Great place to waste time and practice yer typing. Also, great place to be careful what you say while keeping one eye out for scumbags.
- circle-strafe** Lethal strafing maneuver—you run around your opponent at high speed, shooting the shit outta him.
- code jockeys** Overworked programmers pounding out strong code and weak coffee puns into the small hours of the night.
- covering fire** Fire-team tactic for covering open space under fire.
- crank** To rock.

- CPU** Central processing unit—the brain of the PC. The faster the brain, the faster the game.
- cracker** Hacker who tries to break into computer systems and steal or damage stuff.
- cyberspace** A word made up by William Gibson and now used to describe the online world. A great place to kick ass.
- Cyrix** Chip-maker trying to turn up the heat on Intel. They got their own design of chips called 6x86 with a weird P rating that's supposed to measure their speed compared to Intel's Pentium.
- DeathMatch** Multiplayer battle to the death. Second only to DukeMatch in intensity.
- defensive diamond** Fire-team formation for surviving heavy fire. Point man faces forwards, rear guard faces backwards, guy left faces left, guy right faces right.
- Dial-Up Networking** Windows 95/NT way of connecting a stand-alone PC to a remote network (including the Net).
- digital** Not analog. A digital modem kicks the ass of 4 analog modems.
- domain** Three-letter code at the end of an Internet address that tells you what the address belongs to:
.com, .gov, .mil, .edu, .biz, .net, .org.
- download** To haul a file over the wire from somewhere else onto yer hard drive.
- driver** 1. Classic flick with Ryan O'Neal. 2. Software that tells your operating system how to talk to a piece of hardware, like a modem or video card.
- DSVD** Digital Simultaneous Voice and Data (DSVD)—a modem that lets you surf and scream at the same time. Rocks hard.
- dynamic IP address** See IP address.
- DukeMatch** Multiplayer Duke combat. Nothing rocks harder.
- echelon left** Fire-team formation for dealing with threats ahead of you and to the left.
- echelon right** Mirror image of echelon left.
- electronic mail (e-mail)** Yer grade-A weapon for online communication.
- e-mail bomb** An attack on someone's e-mail. Usually means targeting hundreds or thousands of unwanted e-mail messages at the victim's Internet account.
- extensions** Ways of extending the HyperText Markup Language (HTML) so you can do cooler stuff with it. The extensions that kick the most ass become tomorrow's standards.
- FAQ** A list of answers to Frequently Asked Questions.
- favorite** Internet Explorer's word for a Web site you tell it you like. Navigator calls 'em *bookmarks*.
- filtering** Way of trashing mail and Usenet posts you don't wanna see, automatically. See kill file.
- fire team leader** Leader of a fire team. Duh.
- fire team** Two, three, or four combat vets fighting together in DukeMatch or DeathMatch.
- flame** To send a Usenet or e-mail attack to piss someone off.
- flamer** Someone who flames.
- flamewar** When the flames hit the fan and the shit hits the Net.
- flanking movements** Sneaking up to the side of an enemy and pluggin' him. Basic fire-team tactic.
- FM synthesis** Inferior way of playing digital sound. Used in cheap-ass sound cards. If you got the bucks, go with wavetable synthesis instead.
- frag** To fragment.
- frame** Piece of a Web page that can move and scroll independent of the rest of the page.
- FTP** File Transfer Protocol. Way of getting files from one hard drive to another.
- FTP site** A hard drive you can get to using FTP.

- game servers** PCs that host multiplayer games.
- Gopher** Kinda like the Web, only lamer. You can still check out gopher sites using yer Web browser.
- Gopherspace** All Gopher sites.
- hacker** Someone who can make a program jump through hoops. Loosely used to mean someone who tries to break into computer systems. *See* cracker.
- header** Subject line and/or sender name of an e-mail message or a newsgroup post.
- hit** A visit (hit) to a Web site. So many hits make a dollar; so many dollars make a Gates.
- home page** The first Web page you see when you run yer browser. Also, a Web site's front door.
- HTML** HyperText Markup Language—codes that tell yer Web browser what to do with the text or object sandwiched between 'em.
- HTTP** HyperText Transfer Protocol—the protocol that Web browsers and Web servers use to shoot Web pages around.
- hypertext** Text linked to another Web page or document.
- Information Superhighway** Hyped up name for the Net.
- Intel** Chip kings who make the Pentium and Pentium Pro.
- Internet** A network of computer networks that makes up most of what you'll find online. It ain't paradise, it ain't the dark side, it's another world altogether.
- Internet Explorer** Microsoft's entry in the Web-browser wars.
- Internet Service Provider** Guys you connect with to get yer computer attached to the Internet.
- intranet** An internal company web.
- IP address** IP is Internet Protocol. An IP address is a buncha numbers assigned to a computer to give it an ID on the Net. Some ISPs assign what's called a *dynamic IP address* every time you call in, so you might not get a specific IP address for yer machine.
- IRC** Internet Relay Chat, the Internet's creaky, old, real-time conversation pit. Hangout for some interesting people, but also loaded with dirtbags.
- ISDN** Integrated Services Digital Network—digital phone lines that tear it up at ass-kicking speed.
- ISP** *See* Internet Service Provider.
- jargon** Pointlessly technoid language used by geeks to keep non-geeks away from their toys.
- Java** Programming language from Sun. Produces code that'll run on any computer. Huge on the Web.
- kill file** List you keep to tell your mail program or newsreader what kinda messages you want exterminated before they can hit yer screen.
- LAN** *See* local area network.
- latency** Lag time in online games between what you do and when other people see (or feel) you do it. Usually measured in fractions of a second.
- link** Word or part of an image in a Web page that you select to jump to another location.
- links site** Web site that just lists links to other sites. Hit too many of these in a row and yer in The Void.
- local area network (LAN)** Way to connect a buncha computers in the same building. Great for a little R&R DukeMatching against yer boss after hours.
- Los Angeles (L.A.)** The city that knows how to crank it up. Home to bodacious babes and at least one blond-haired demigod packin' serious firepower. Also, frequent target of alien attacks.
- lurk** To hang back and read an online conversation (mailing list, newsgroup, chat room) for a while before opening yer trap. A smart idea.
- Lynx** Ancient text-only Web browser.



- mailing list** An e-mail address that you send a message to, and either a person or a program guns that message on to everyone who's subscribed to the list.
- megahertz (MHz)** Speed measurement for computer chips. A 100MHz chip vibrates at one hundred million cycles a second.
- MIME** Multipurpose Internet Mail Extensions. Way of getting more outta yer e-mail—used for attachments.
- MMX** A new twist to chip technology that Intel hopes will make graphics rock harder.
- modem** Modulator/demodulator—device for shooting data over a phone line. Analog modems are slower, cheaper, easier to install. Digital modems are faster, more expensive, and often a drag to get running.
- Mosaic** Free graphic Web browser created by Marc Andreessen and Eric Bina at the University of Illinois' National Center for Supercomputer Applications (NCSA). The Web's first killer app.
- MUD** Multiuser dungeon—one of the original kinds of online game. Despite the name, lots of MUDs ain't dungeons at all.
- Multimedia** Programs or Web sites that mix sound, music, pictures, movies, and text.
- multiplayer games** The meaning of life.
- Navigator** Netscape's entry in the Web-browser wars.
- Net** *See* Internet.
- netiquette** Net etiquette. How not to be an asshole online.
- network** A buncha computers connected together, usually with wire.
- newbie** Someone new to Net, usually confused, often irritating to people who already know the score. Don't stay one for long.
- newsgroup** An online bulletin board. Usually part of Usenet.
- newsgroup flooding** Shootin' hundreds of copies of the same message out to an unlucky newsgroup and drowning real posts in the noise.
- newsreader** Program for reading stuff in newsgroups. Examples: Netscape News, Internet News.
- NNTP server** Network News Transport Protocol server—news server for Usenet newsgroups.
- online service** AOL, CompuServe, and Prodigy are the big dogs here.
- Outgoing Mail (SMTP) Server** Server for sending e-mail.
- packet** Chunks of data shot over a network.
- packet-switching** Breaking data down into packets. Each packet carries info on where it's headed, and how to put it back together once it gets there.
- password** Your numero uno way of protecting yerself online. A good password has more'n 6 characters (includes capitals and at least one symbol) and isn't a real word.
- Pentium** Intel's workhorse chip for the late '90s. The higher the speed, the faster yer enemies bleed.
- Pentium Pro** Latest chip from Intel. Best for 32-bit operating systems like Windows NT and OS/2 Warp. Doesn't do so good with Windows 95.
- phreaks** Phone hackers. *See also* black box, blue box, red box.
- pipeline burst** Good kinda cache memory.
- playable demos** A game sample, designed to make you wanna pay for the rest.
- point man** The guy at the front of a fire team. Often the first to hit trouble.
- POP3 server** Post Office Protocol server for sending e-mail.
- post** 1. To send a message to a mailing list or newsgroup. 2. A message sent to a mailing list or newsgroup.
- PPP** Point-to-Point Protocol—protocol for jacking a PC into the Net. Newer and better than SLIP.
- protocol** An agreed-on way of transferring information. TCP/IP, FTP, and HTTP are some examples.

- RAM** Random access memory—what the CPU of your PC thinks in. Serious weapon in the fight against lame gameplay. Make sure you have at least 16MB RAM on board; buy 32MB or 64MB if you can afford it.
- rear guard** Last man in a fire team. Has to guard yer collective ass with his life. Often gets fragged.
- red box** Phreaker tool for fooling a pay phone into thinking someone's dropped in change.
- rock** To crank.
- score** To snag.
- search engine** Internet tool for finding information. Good search engines let you use Boolean searches.
- search query** The combo of text and Booleans you tell a search engine to look for. Also called *search string*.
- shareware games** Try-before-you-buy games. You like 'em, you're supposed to send the makers some green.
- Shockwave** A file format that unleashes multimedia on the Net.
- signature (sig) file** Text that gets dumped at the end of every message you shoot out.
- SLIP** Serial Line Internet Protocol—protocol for jacking a PC into the Net. Older than PPP and not as good.
- SMTP** Simple Mail Transport Protocol—mail server for sending yer e-mail.
- snag** To score.
- sound card** Chunka silicon and wires that yer computer uses to tell ya to come get some. If you got the cash, pick wavetable synthesis over FM synthesis.
- spammers** People who spam. Usually weasels or weasel-like. *See* Spamming.
- spamming** Sending out unwanted messages to lots of people.
- strafing** Stepping sideways, firing as necessary. Lethal combat tactic. Try circle-strafing for tough opponents.
- subscribe** Join a newsgroup or a mailing list.
- syntax** Nerd word for shouting out precise commands.
- Telnet** Program for remote log-in. Hacker's friend.
- T1** Fast digital telephone service—like an ISDN line on steroids. Data transfer up to 1.544Mbps.
- T3** Like a nuclear-powered ISDN line. Data transfer up to 45Mbps.
- TCP/IP** Transmission Control Protocol/Internet Protocol. The way the Internet talks, baby.
- terminal adapter** An ISDN modem.
- thread** Chain of messages that make up a single conversation, for example, on Usenet.
- UNIX** Operating system that looks worse than DOS and is used by tons of machines and technoids around the Net.
- unsubscribe** To ditch a mailing list or newsgroup.
- upload** To gun a file from your hard drive to another hard drive over the wire.
- URL** Uniform resource locator. Web address.
- Usenet** Main collection of newsgroups on the Internet. Solid source of inside info and big-time bullshit.
- username** Yer online identity; the name you log in with. Usually the first part of yer e-mail address.
- Veronica** Ancient tool from the text-only Stone Age for searching Gopherspace.
- video card** Hardware your PC uses to tell the monitor to display blond-haired demigods saving the earth in full living color. Buzz words: resolution, 24-bit color, 3D accelerators.
- viruses** Chunks of programming code usually built to screw around with other people's programs, documents, or operating systems.
- wavetable synthesis** A rippin' kinda sound reproduction. Usually better than FM synthesis cards.
- Web** Short name for World Wide Web.
- Web page** A hypertext doc on the Web.
- Web site** A bunch of Web pages created as a unit.



World Wide Web The part of the Net that wears sunglasses and packs a ripper chaingun. A HUGE connected collection of hypertext docs on the Net that covers most of the planet. Surf, baby, surf.

WWW Early text-based Web browser. Showed screens and screens full of text with hypertext links.

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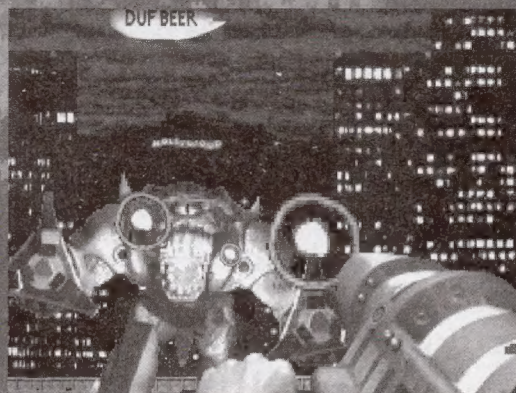
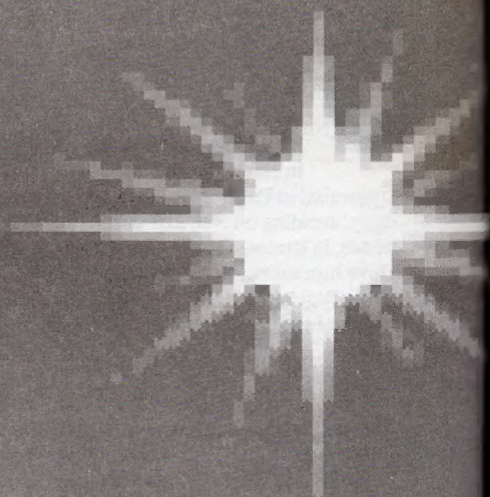
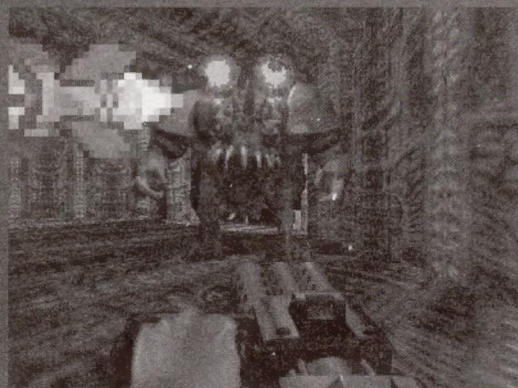
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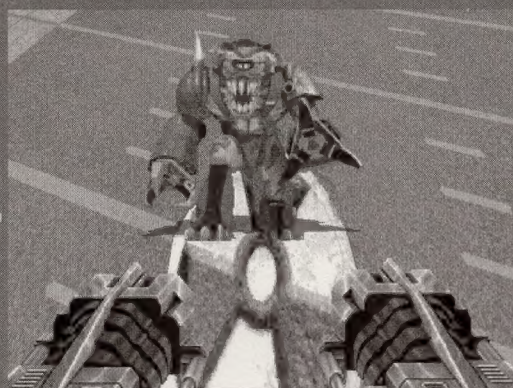
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About the Author

Duke Nukem has saved the Earth from certain destruction on at least three separate occasions. A specialist in real-time extraterrestrial deconstruction, Mr. Nukem enjoys both kicking ass and taking names.



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